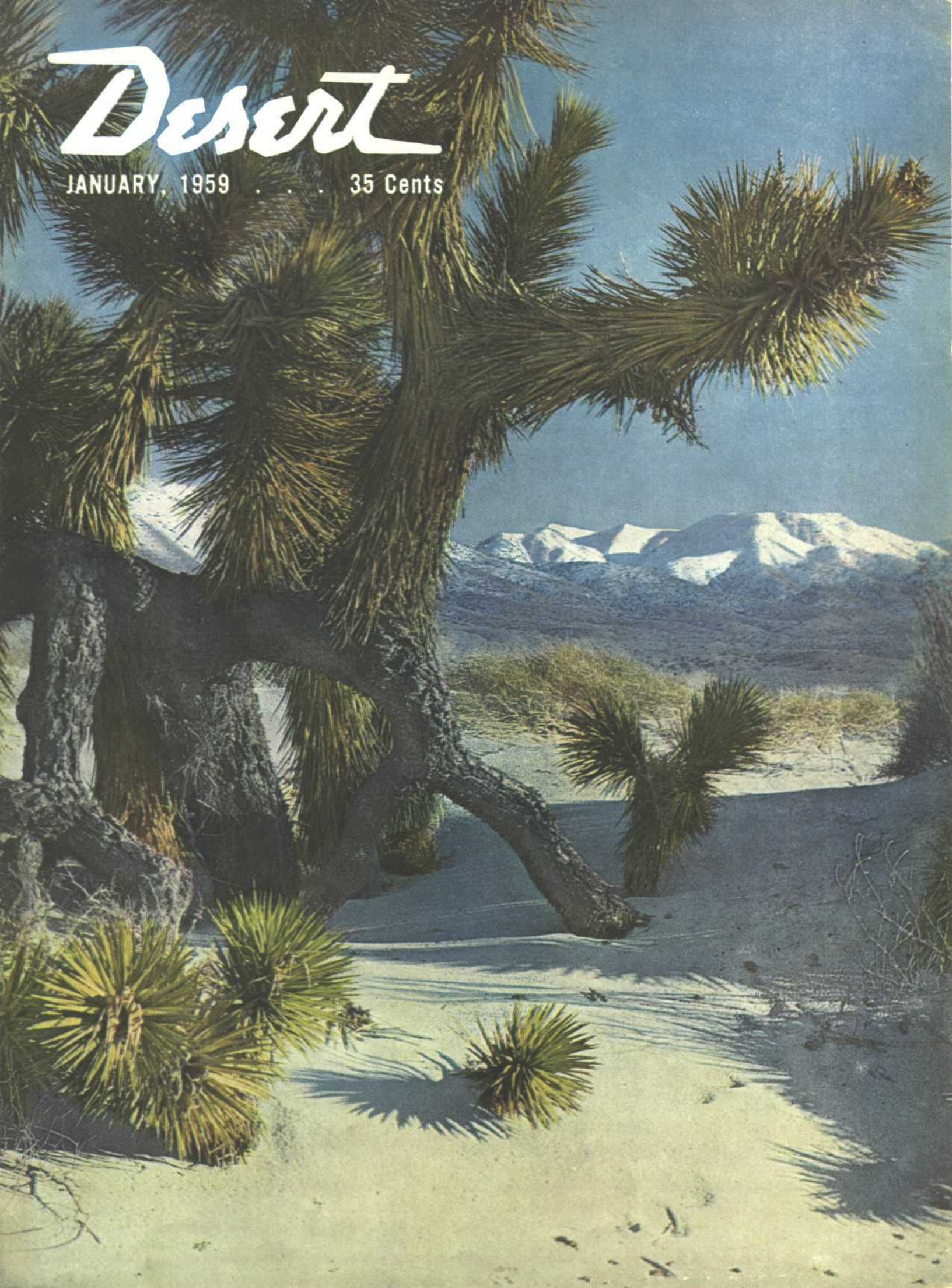


Desert

JANUARY, 1959 . . . 35 Cents



JANUARY on the DESERT

Snow may be flying elsewhere in the nation, but on the lower and warmer desert areas, January days are sunny and just crisp enough to be invigorating. When it does cloud up, the only scurrying you are apt to see is by the photographers going for their equipment — the brilliant red sunset will be worth capturing on film.

Sporting events highlight activities in California - Arizona winter play-

grounds. In the higher country—Salt Lake City, Reno, northern New Mexico and Flagstaff—great skiing is offered to vacationers. For the camper and rockhound, January is a favorite get-out-and-see-the-country month. Nights are chilly, so be prepared.

In sharp contrast to the white man's play will be the generations-old ceremonies scheduled for this month at the Rio Grande Pueblos of New Mexico.

ARIZONA

January 3-4—Dons Club Travelcade to Tucson Mountain Park, San Xavier Mission, Colossal Cave and Casa Grande and Saguaro National monuments, from Phoenix.

January 4 — Oregon State Potluck Luncheon, Verde Park, Phoenix.

January 7-10—Arizona National Livestock Show, Sponsored by the Arizona National Livestock Association, State Fairgrounds, Phoenix.

January 9-11—7th Annual Thunderbird Tennis Championships, Paradise Valley Racquet Club, Phoenix.

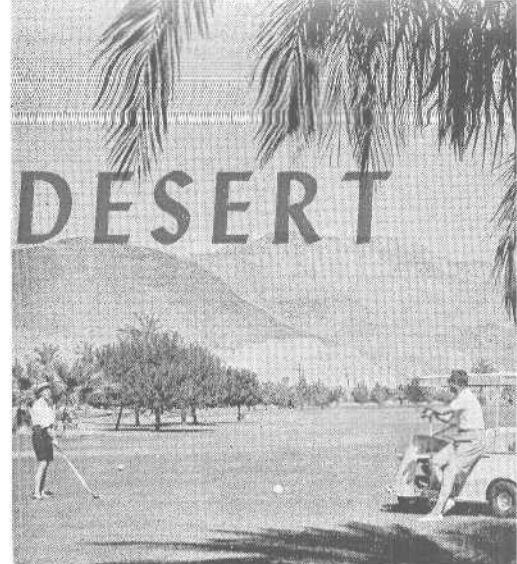
January 11 — Desert Sun Ranchers Rodeo, Wickenburg.

January 11—Dons Club Apache Trail Travelcade, from Phoenix.

January 17-18 — Dons Club Travelcade to Chiricahua National Monument, Douglas area and Tombstone, from Phoenix.

January 25 — Dons Club Travelcade to Prescott, Jerome and Montezuma Castle National Monument, from Phoenix.

January 25 — Desert Sun Ranchers Rodeo, Wickenburg.



Thunderbird Country Club in Palm Springs, California, will be one of several settings in the desert resort community for January golf tournament play.

January 25—Junior Chamber of Commerce Trek to Kings Ranch, from Mesa.

January 30-February 1—Parada Del Sol, Scottsdale.

January 30-February 1 — Dons Club Travelcade to Glen Canyon Dam and the Flagstaff area, from Phoenix.

January 31-February 8 — Exposition of Modern Living, Exhibiting Homes, Sports, Boats, Foods. Park Central, Phoenix.

CALIFORNIA

December 13-January 5—John Hilton Art Exhibit, *Desert Magazine* Gallery, Palm Desert.

January 16-18—Annual Blue Ribbon Tennis Tournament, Racquet Club, Palm Springs.

January 17-February 1 — Marjorie Cummins Art Exhibit, *Desert Magazine* Gallery, Palm Desert.

January 20 — National Pro-Member Invitational Golf Tournament, Indian Wells.

January 22-25 — Pro-Member Golf Tournament, Thunderbird Country Club, Palm Springs.

January 27-29 — Desert Senior Golf Tournament, Palm Springs.

NEW MEXICO

January 1—Comanche Dances, Ranchos de Taos.

January 1—Deer Dance, Taos Pueblo.

January 1 — Sun Bowl Carnival Parade and Football Game, El Paso (Texas).

January 6 — Twelfth-night Celebrations, burning of Christmas trees, in most Spanish-American settlements.

January 6—Ceremonial Dances and Installation of Governors at various Rio Grande Pueblos.

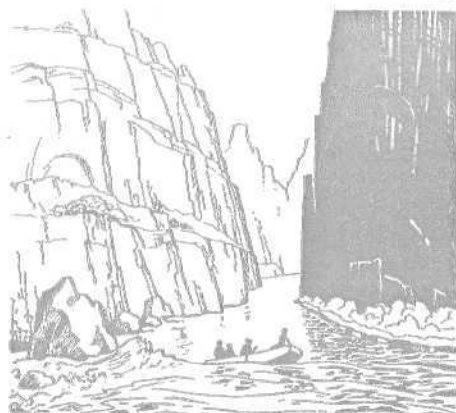
January 22-23 — Southeastern New Mexico Hereford Show and Sale, Fairgrounds, Roswell.

January 23—Buffalo Dance and Fiesta, San Ildefonso Pueblo.

UTAH

January 13 — 1847 Pioneer Days, Parowan.

A champ is crowned at the Arizona National Livestock Show by Miss America, Marilyn VanDerber.



1959

SCENIC FAST WATER
FLOAT TRIPS ON THE
SAN JUAN RIVER, GRAND
CANYON, RIVER OF NO
RETURN, HELL'S CANYON

Mexican Hat Expeditions
Mexican Hat, Utah

GLEN CANYON FLOAT AND POWER TRIPS
MAY THROUGH SEPTEMBER

Explore and photograph this wonderful canyon,
soon to be covered by rising lake waters.

Mexican Hat's

GLEN CANYON BOATING, Inc.
WHITE CANYON, UTAH

Publisher's Notes

Fortunately, the world changes. Whether it alters for better or for worse is a mooted topic. But this we know: our existence would be boring indeed if change were not ever-present.

As 1959 comes over the hill what changes are in store for *Desert Magazine* this coming year?

* * *

Perhaps the major modification in *Desert Magazine* will be the addition of some new departments in 1959. How about a Desert Kitchen section, devoted to camping, barbecuing, and Mexican cookery? Would that appeal to the lady folks?

A Desert Primer feature for desert newcomers and junior readers will broaden the appeal of the magazine.

We hope, too, to develop a series on unique and outstanding Southwestern architecture. This month's article on the school at Shoshone, California, is an example of *Desert's* interest in the new and worthy in Southwestern buildings. If the readers have suggestion of possible architectural subjects, Editor Randall Henderson will be glad to hear from you.

More travel features are planned for the 1959 volume of *Desert Magazine*. More color, a few more desert-attuned features, and, of course, a continuing liberal sprinkling of ghost town articles, lost mine legends, rock and mineral news, Nature subjects, Indian lore—these are on the menu for the year ahead.

* * *

A report on the recent reader survey which sampled one-out-of-each-ten of our subscribers was planned for this month's *Desert Magazine*, but a much larger return of questionnaire reports than was anticipated has set the tabulation back several weeks. Next month for sure!

* * *

For the first time *Desert Magazine* is carrying a four color reproduction of a painting. The back cover, an oil painting by the well-known Southwestern artist, Marjorie Reed, is an experiment that I hope we can continue. We would like to hear from our readers who want to see more desert canvases depicted on our color pages.

CHUCK SHELTON
Publisher



ABOUT THE COVER . . .

This wintry scene was made in Apple Valley, California. The desert side of San Geronio Mountain forms the background. While snow is an annual occurrence on the High Desert floor, it rarely remains on the ground more than two or three days after it falls. Photographer is Wayne Book.



THE *Desert* MAGAZINE

Volume 22

JANUARY, 1959

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EUGENE L. CONROTTO, Associate Editor EVONNE RIDDELL, Circulation Manager

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Address Correspondence to *Desert Magazine*, Palm Desert, California

A black and white photograph of a large, ancient-looking Juniper tree with a thick, gnarled trunk and a dense, rounded canopy. The tree stands in a dry, grassy desert landscape with low hills in the background under a clear sky.

LIFE from the EARTH

By MARY BECKWITH

Juniper tree.

IN THIS DAY of supermarkets and drug stores, we are becoming strangers to the fruitful earth and its products. Not so with the prehistoric peoples of the Southwest who directly depended on the land for their sustenance.

How would you feed, clothe and doctor your family if suddenly you were transported back to 300 A.D.? Recently a friend and I discussed this question, and I became so engrossed with the subject I began an exhaustive investigation to find the answers. This article is the result of that research.

For thousands of years prior to the time of our story, nomadic bands roamed the high plateaus of the Four Corners area. The cultivation of maize, slowly diffused into the North American tribal groups from Central America where it originated, closed this Archaic Period of wandering food-searchers, and ushered in a new era.

The first corn was a sorry affair—

hard, flinty and with eight small-kernelled rows to the cob. Squash was little better. Developed from wild gourds, it was tough, stringy and inferior tasting. But these two new foods must have been as enthusiastically welcomed by Mrs. Anasazi as were frozen foods of our day. They allowed a radical change in the Anasazi family's way of life. Now they could homestead in their multi-colored Four Corners country, and in the late spring plant a little garden. Eventually, other families settled nearby and soon small pit-house villages began to dot the region.

Thus the food staple, corn, became the foundation of a flourishing civilization.

But, dry farming is precarious on the desert. Nature still had to be relied upon to augment the corn patch, even if the storage cists were filled.

Several uncultivated plants were all-important. Mesquite beans were boiled like string beans, or dried and ground

on metates into a meal for gruels and cakes. Sometimes these beans were eaten raw, or fermented into a beverage. Seeds of other pod-bearers, including Catsclaw and Screw bean, were similarly used.

Mesquite gum was eaten like candy, and in later years, around 500 A.D., it supplied a mucilage for mending broken pots—although from the abundance of potshards found in this region, it never occurred to me that these people bothered to repair their pottery. Resin also healed minor wounds, while from Mesquite bark Mrs. Anasazi obtained a black dye as well as a tanning agent. Mesquite limbs were fashioned into digging sticks and other implements.

Shredded Juniper bark kept her snug and warm in drafty shelters, and padded baby's soft cradles. It was also the first disposable diaper material. Combined with Yucca fibers, Juniper bark was woven into bags, baskets,

How plants were utilized for food, medicine and clothing by the "Old Ones,"

Southwest Basketmakers of the Anasazi Culture (300 to 700 A.D.)

sandals and the scanty G-string and abbreviated fringed aprons which composed the sole warm-weather wardrobe of the day. With fur and feathers, Juniper bark was skillfully fashioned into blankets to ward off winter's chill.

Juniper berries were ground into a meal for cakes; or mixed with water for an alcoholic drink. Necklaces of Juniper seeds, colored stones and shells added adornment to the scanty attire. Seeds also were used in rattles to pacify baby or add rhythmic beat to dance steps. Stems and roots compounded into a washing detergent, and Juniper sticks, when heated and applied to sprains and bruises, reduced the swelling.

Manzanita berries were boiled down into a jelly, eaten raw, or dried for mush. When dried, crushed and cooked in water, this fruit yielded a cider-like drink. Manzanita leaves were rolled into tobacco, or used in tanning skins. Medicinally, the juice was used to treat sores and ulcers; and if Mrs. Anasazi walked through poison ivy or oak, Manzanita leaves relieved the itching. Leaves and fruit were a remedy for bronchitis and dropsy.

Yucca served in a score of ways. Early Mrs. Anasazi discovered that by soaking the stiff fibers, then beating off the outer cover, she had a more amenable weaving material. Yucca buds, flowers, young stalks, fruits and seeds furnished important foods; even the roots were eaten raw, boiled or roasted. Roots and stems lathered into a soap which made Mrs. Anasazi's hair shine. From the fruits came a fermented drink—the juice even made a varnish. And an infusion of Yucca roots was a mild laxative.

But, despite cultivated corn and these wonderful wild plants growing in her backyard, Mrs. Anasazi had to gather even more food if empty stomachs were to be filled.

From the Pinyons early in the fall she gathered pine nuts which were shelled, roasted and ground into meal. If you have ever cracked only a few of these tough nuts, you will sympathize with Mrs. Anasazi. With Pinyon resin she waterproofed her cooking baskets. In a later period this resin was used to cement turquoise stones in jewelry. The gum also was a mild antiseptic.

Black walnuts and acorns also were harvested in the fall, and stored against lean winter months.

Female work parties, with babies on

their backs and older children at their heels, made long treks in the late summer to reap Wild oats, Wheat and Buckwheat. Other seed plants, such as Chia, Prince's Plume and Seep-weed, were equally important. Wandering from clump to clump with a stick, Mrs. Anasazi knocked the seeds into her specially-woven flat basket tray. These seeds were eaten parched or boiled by placing hot stones into watertight baskets. Also, they were ground and shaped into cakes and baked on hot stones.

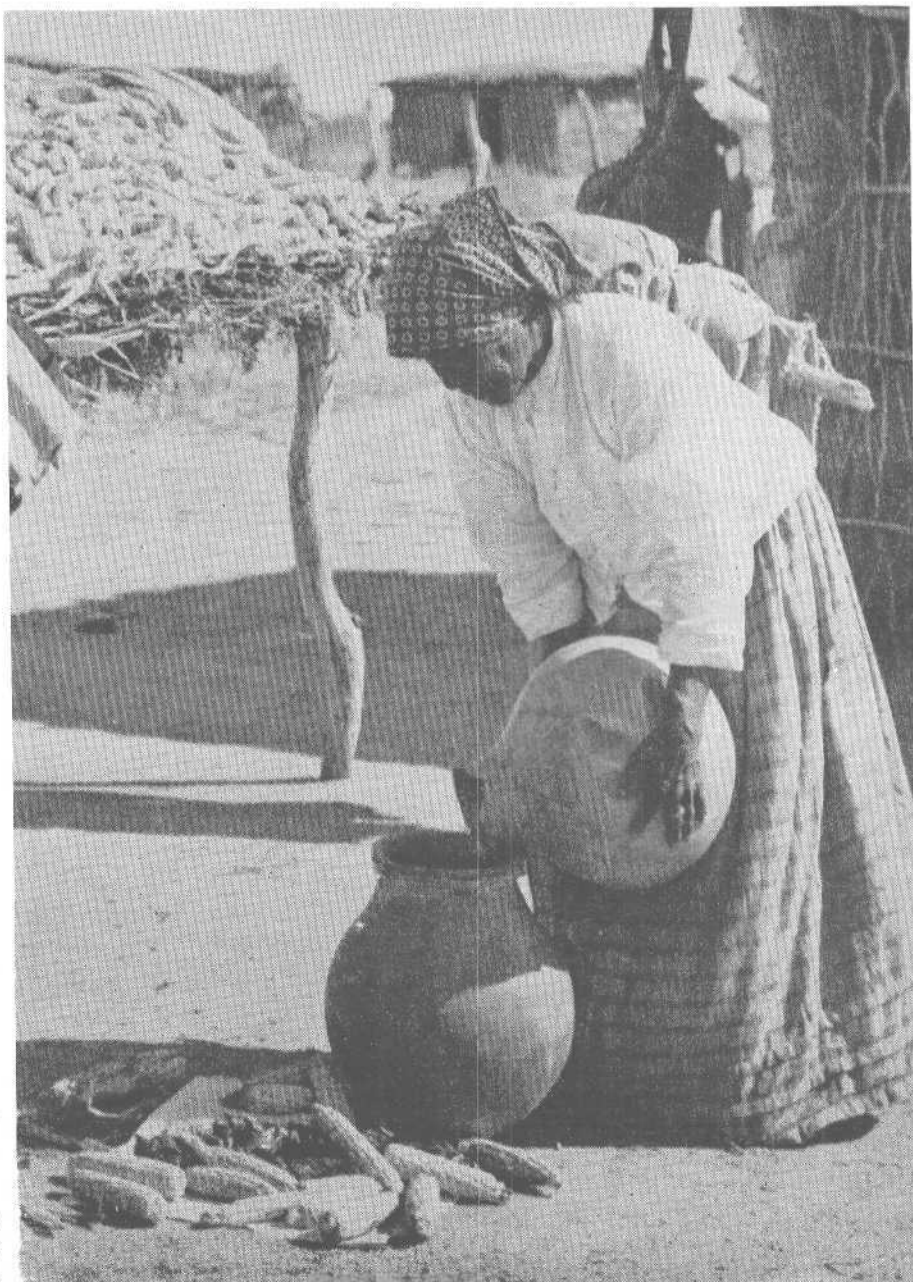
Wild berries furnished natural sugars. They were eaten raw or cooked into jellies and preserves. Often they were dried and stored for winter. Mrs. Anasazi had a wide choice of berries: Currants, Blackberries, Raspberries, Wild strawberries, Service berries, Gooseberries, Oregongrape, Algerita

and Choke-cherry. For added sugar, cat-tail was chewed like sugar cane, and wild honey must have been gathered.

Leaves of the Seep-weed, Checkermallow, Cow-parsnip, Gromwell, Chicory and Dandelion were cooked like spinach. Salads were tossed together from the tender young leaves of the Dandelion, Prairie Goldenrod, Watercress, Sorrel and the young stalks of Bear grass. It is not unlikely that various flowerheads, such as Yucca or Indian Paintbrush, were added.

For seasonings she had many pot-herbs, including the Bee-plant of the Caper Family, thyme-like Horsemint, Spiderwort, Sage, Parsley and the celery-like Chuchupate. Wild onions were eaten raw or added to stews.

Salt was more difficult to obtain. Near the mouth of the Little Colorado

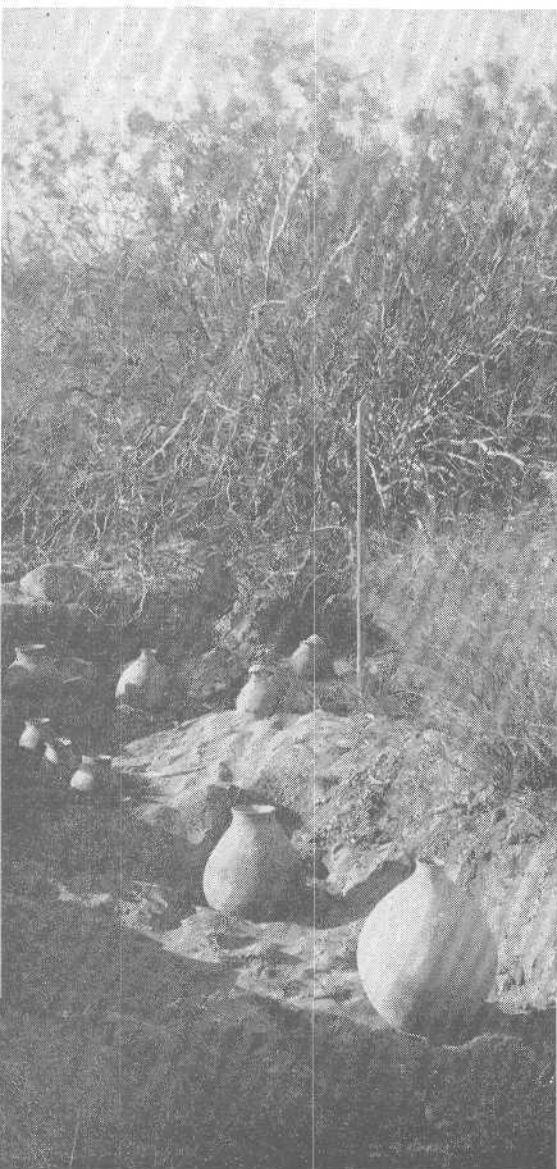


Ways of the Ancients still are used by present-day Indians. Here a Papago woman stores shelled corn in an olla.

Chemehuevi basketmaker. Her art is a dying one. Tribal group is from the lower Colorado River area.

deep within the Grand Canyon, ancestral Hopis had secret salt mines to which they made ceremonial journeys. Adjacent to the Zuni villages is a salt lake, and an old Navajo lady of my acquaintance told me that in the old days their salt came from "long, long away" and pointed in the direction of the Zuni Pueblo. Near Camp Verde is another salt mine, and large rock salt deposits existed in the Moapa Valley near the mouth of the Muddy River. From these sources and others Mrs. Anasazi might have obtained a precious bag of salt by trade. Animal blood undoubtedly furnished her chief—and cheapest—salt source.

In the late spring her digging sticks unearthed Arrow-head tubers which were roasted and eaten like potatoes. Bulbs of the Sego-lily, Desert Hyacinth and Spring-beauty, as well as roots of



the Salsify, Scurf-pea, Spiderwort and Cow-parsnip supplemented the larder.

Summer suns ripened cactus fruits which were eaten from the plant or made into jellies. Flower buds of Deer-horn cholla were steamed in pits.

Deer, bear, antelope, mountain sheep and other large game animals were felled by Mrs. Anasazi's atlatl-throwing husband, and roasted over pungent pinyon fires. Smaller game — rabbit, squirrel, gopher and field mice — were trapped in intricately-woven snares of human hair. Such game often was stewed by placing hot stones in the cooking baskets. The superior bow and arrow appeared around 600 A.D., and game undoubtedly became a more important part of the tribesmen's diet.

While hunting occupied the major

Pottery was developed during late stages of Anasazi Culture. Photo shows a rich archeological harvest.

portion of Mr. Anasazi's time, he also had to manufacture knives, scrapers and spear points from chert and obsidian. Axes, hammers and mauls were laboriously pecked out. He searched for strong straight Carrizo or Arrow-weed stems for his arrow shafts, and various other woods for planting sticks and implements. No one was idle in an Anasazi household.

As the decades slowly passed through the Basketmaker era, our family planted larger-kerneled and more varied corn, squashes which were more palatable, and an important new crop—beans. Life became more leisurely, better arts and crafts were developed, and communal living became more integrated.

Medicine pouches occasionally are found containing desiccated plants that indicate prehistoric Indians had considerable knowledge of, and treatment for, many ailments. Some of the nar-

cotic plants such as *Datura* and the seeds of the Prickly Poppy may have been used for ceremonial purposes rather than to alleviate pain. Today the Hopi use Larkspur as an emetic in certain ceremonies, and they eat the roots of the Four-o'clock to produce visions.

Prehistoric people were engrossed with the supernatural, and the medicine man was the intermediary who warded off evil spirits. With chanted prayers and rituals, he secured the health and welfare of the individual patient or the entire village, insured fertile crops and successful hunts. Even today, Pussetoes tobacco is smoked by the Navajo in prayers for rain; the Hopi grind *Gilia* flowers as a hunting offering; and the Zuni smear chewed roots of the Scarlet Bugler on their rabbit sticks. Therefore it seems likely the ancient medicine men had plenty to do without caring for minor ailments which the family could readily treat. He was a specialist who attended only certain obscure illnesses for which he received specialist's fees!

Mr. and Mrs. Anasazi were preoccupied with curing colds and sore throats—even as we are today. Tonics were concocted from the boiled crushed leaves of the Creosote Bush, the crushed roots of Yerba de Chivato (*Clematis lingusticifolia*), Yarrow, Globe Mallow, Chuchupate, and the bark of the Flannel Bush. These were, I imagine, as effective as most of the hundreds of nostrums filling the druggist's shelves today.

Poultices made from Groundsel stems, Globe Mallow, leaves of the Creosote Bush, roots of the *Clematis*, sap of the Thistle Poppy and dried Indian Paintbrush were applied to boils and other skin disorders. Chewed Snake-weed was recommended for removing the stinger from bee and wasp bites.

Skeletal remains show that our Anasazi family suffered from arthritis and rheumatism for which they tried various preparations compounded from the Bear-berry, Locust or a decoction of the leaves and stems of the Oregon-grape.

Tonic Teas

Dyspepsia and other stomach qualms were quieted with tonic teas brewed from Ephedra or Wild Mint, or an emetic prepared from the Cliff-rose. Other remedies were made from Snake-weed, the dried leaves of *Gilia* or the roots of the Four-o'clock, Chuchupate or Dock. A friend of mine in Utah, plagued for years with ulcers, was told by an old medicine man of the curative powers of Dock root. As my friend had tried everything else, there seemed little to lose, so for several months he munched on these roots.

Today he is a lusty eater and looks and feels wonderful.

Wounds and sores responded to an antiseptic dust of powdered Cinquefoil, Quail-plant or a solution from the Cliff-rose. The Zuni rub the chewed flowers and roots of Yarrow on their skins before fire ceremonies, and perhaps Mrs. Anasazi applied this same emollient when she burned a finger.

Poultices of chewed roots of the purple Bell-flower or Clematis, or an application of Wild Mint, were first-aid therapy for swellings and bruises.

Concoctions of Penstemon, Bear-berry or Indian Paintbrush restored health to kidney sufferers; while Dandelion roots stimulated the liver.

Remedies

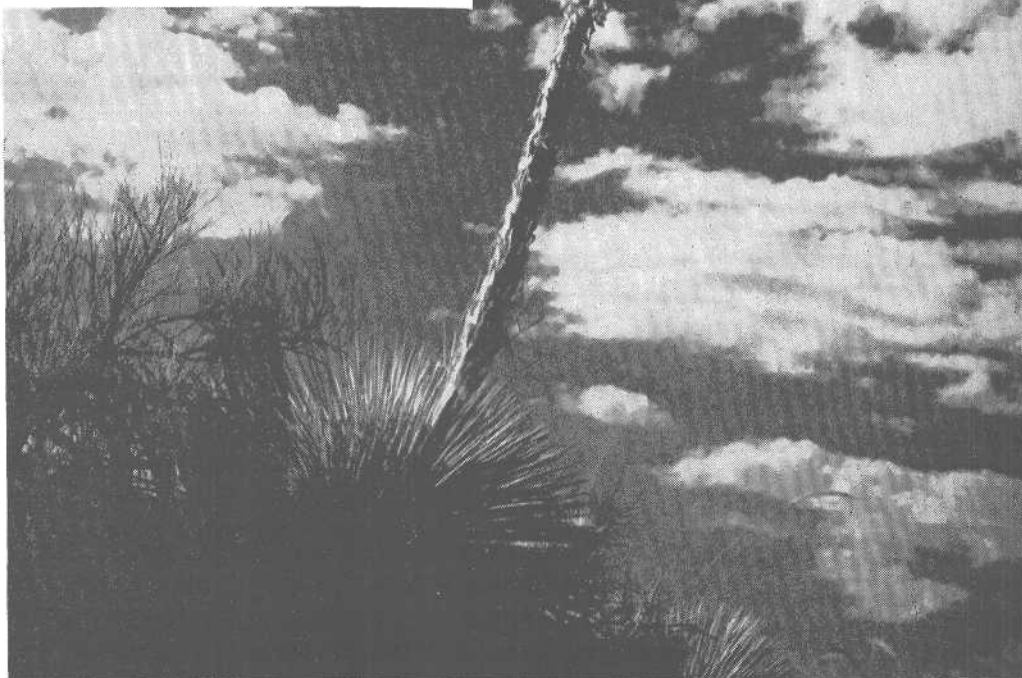
Wintergreen (*Pyrola*) was used for diarrhea and to check hemorrhage. An application of Desert Pink taken internally or applied externally stimulated the flow of mother's milk, while Cinquefoil hastened childbirth. Today if a Navajo mother wishes to guarantee a girl-baby she eats Purple Bell-flowers.

The Anasazis had headaches too, and their aspirin pill was Marsh Gentian, the powdered roots of Winged Buckwheat, or the roots of Chuchupate.

Too much sun? The Zuni use ground Western Wallflower in water on the temples to revive victims of heat prostration. It also helps screen ultraviolet rays. I expect our Basket-maker family was aware of this remedy, too.

Smoking the dried Mullein leaves supposedly cured mental disturbances, and for anxiety a preparation of Buck-

Yucca was important food and fiber source for the Basketmaker Indians.



brush leaves was applied internally as well as externally. The Hopi use the root of the Bladder-pod as an antidote for rattlesnake bite.

All the herbic medicines mentioned above, and scores of others, are being used today by the Navajo, Hopi, Zuni and other tribesmen. These medicines have been handed down from generation to generation for untold ages. A medicine man of my acquaintance confirmed this fact when he answered my questions with:

"But, my friend, these plants have always been used."—END

The family of "Mr. Average Man" takes a five-day desert vacation which confirms a fact it had long known:

The Desert Is Our Friend

By DOROTHY HITT

SHEDDING THE trappings of civilization and getting down to fundamentals would suit us fine. To know that we must take certain precautions or suffer the serious consequences would give us a lift, make our blood run faster. Perhaps we were born out of time. We would have been happy to have lived during the time of the trek Westward or still earlier—the finding of the New World. Perhaps, had we lived in another era, we would have been explorers.

But, in reality we are a staid middle-aged couple with four children. We are technicians in a large mental hospital in central California. Solid citizens loaded down with the modern conveniences and debts of Mr. Average Man. Earl and I wear nurse's whites and keep aseptically clean week in and week out. We live our lives regularly and impeccably until we can stand it no longer and our safety valves are ready to pop.

We both seem to feel it coming on at the same time. Earl starts looking over the camping equipment and browsing over maps. He talks about this kind of agate or that color of jasper he would like to have a bit of. We are restless, and the only cure is a trip to the Mojave Desert.

On our last outing we went to the Potato Patch, a well-known geode bed in the Wiley Well district south of the Desert Center to Blythe highway. There are always a number of desert enthusiasts here on week ends, but on week days the place usually is deserted.

As we turned off the paved highway at the battered Wiley Well sign, we dropped that staid couple in nurse's whites and never thought of them again for the next five days.

On Our Own

Now we were on our own. We met no one. Earl drove carefully—no help was available if we broke down. We were 20 miles from the highway—a long walk. It was winter and we could have hiked out if necessary—but we made sure it would not be necessary. As soon as we left the pavement we became self-sufficient desert folk—we carried everything with us to sustain life for five days.

We made camp, and everyone had

a job to do. The Bible principle of "... if any work not, neither let him eat," was in full force here. Earl organized matters, deciding the camp lay-out and seeing that everything was arranged conveniently. The older boys unloaded the gear, while the two younger children gathered rocks for the fireplace and collected wood for fuel. I set up my kitchen and helped with the beds.

Then Earl took a stop watch from his pocket. "Pretty good time," he said. "About 10 minutes slower than last time, but considering the distance we had to carry things, not bad at all."

"Not fair! Not fair!" cried the boys. "We didn't know you were timing us, this time doesn't count!"

"Okay, okay," Earl answered. "It was kind of sneaky. We won't count it."

The clamor died down and we turned our attention to the land beyond camp. It was completely new to us. Dave and Dan, our teen-agers, started off to the right.

Explore the Land

"No idle wandering, boys," their dad said. "Keep alert about directions and landmarks. Be back by dusk."

"We'll watch it, Dad, and we'll be hungry enough to eat even your cooking when we get back." With a wave of the hand they were gone.

Earl, Katy, Larry and I turned left down a wash which supposedly led to a good fire agate field.

We spent two happy hours scouring a small portion of the wash—without success.

"Well, we didn't find a 'braggin' rock' today, but we saw other things, didn't we, Katy?" Earl queried as we headed back to camp.

"Uh-huh, we saw clumps of dried weeds that had little dried flowers on them. They'd be real nice in a bouquet with driftwood. I saw some with open pods. They'd go good, too," she answered.

"How about you, Larry? Did you see anything interesting?"

"Sure, bugs. They're different from those at home." He saw my startled look and said scornfully, "I didn't pick

any up and I didn't reach on the shady side of bushes. I know that's where snakes like to cool off."

Earl laughed. "Not much danger of snakes this time of year but a good habit anyway. Another good practice is to be observant and alert. Do you remember the way we came? Let's see if you can lead us back."

Katy and Larry took the lead, debating now and then as to direction and landmarks, but eventually bringing us into camp.

The older boys arrived promptly as supper was ready to be served.

"We saw the biggest geode in history," Dan said. "It was that big around." He made a circle with his arms. "We couldn't figure out how to get it back to camp."

Burnt Hills

"The hills are real nice but still warm even for this time of year. It must be because they are almost black," Dave said.

"Makes one appreciate a cool drink and a cool spot," Earl answered. "It is something like this in the Holy Land. The Bible speaks of 'streams of water in a dry place and the shadow of a great rock in a weary land.'"

While we were talking and eating, night began to fall. We stopped to listen to the hush of first dark on the desert, and turned our backs on the fire to better observe our friend the desert.

The shadows lengthened and deepened. They turned the mountains to deep brown and finally veiled them in Ethiopian black. While we sat wordless, a tiny breeze sprang up as the cool night air gently tagged the warm day air off to the hills. Riding in on the cool air were the day smells—the acrid aroma of the desert shrubs wafted by. We imagined we could smell the odor of warm desert rocks and the hot sand of the washes. Gradually the day smells dissipated, and the cool unscented night air took their place. The stars came out low enough to polish. Still we sat cross-legged on the ground, silent, savoring the elusive mysterious desert.

All five days went by as enjoyably as did the first. We didn't find that "braggin' rock," and the boys never figured a way to get that huge geode back to camp. We didn't want to break it up, so we left it.

But we weren't disappointed, for rocks are secondary. We came back with knowledge and increased skill. Our love and appreciation of the desert was even greater—there is where you can teach your children what is the wheat and what is the chaff in life.—END

Trail to a Baja Salt Spring

A sunny day, new country to explore, and in a distant ravine: mystery—a white patch of ground that looked like a cross between a glacier and gleaming sand. These are the ingredients for an exciting day of hiking on the rugged Baja California gulf coast.

By LOUISE WERNER
Map by Norton Allen

"LET'S CLIMB to the top of the ridge and look around," said my husband, Niles. It was only a few hundred feet high, rising to the west of our Baja California campsite on the western shore of the Gulf of California, 225 miles south of the Mexican border.

Remembering other occasions when an impromptu scramble up a ridge had lengthened into a long day's exploration, I hastily placed a few items into my small knapsack: a lightweight nylon parka, a can each of steamed brown bread, tomato juice and fruit cocktail, some cheese, nuts and hard candy, dark glasses, lip salve, and moleskin for blisters. Niles took two quarts of water, a camera, a pair of binoculars, flashlight and snake-bite kit.

We headed up a 150-foot pumice slope toward a gap in the ridge, occasionally pausing to look back over the environs of our camp, enjoying the widening perspective that comes with elevation gains. A graceful white crescent of sand marked the high-tide line on Bahia de San Luis Gonzaga below. Across a mile of blue water loomed a red-brown volcanic island, protecting the northern arm of the bay from the open sea. A flight of brown pelicans and white gulls came winging toward shore. From great heights individual birds dove, like thrown knives, headfirst into the bay. Northeast of the island, beyond the sea entrance to the bay, dozens of whales were spouting.

Elephant Trees

Following the ridge north to its crest, we looked northeast into a wash we had explored the day before on our way in. Patches of yellow, resembling aspen in fall color, had set us to wondering. This was the Easter season and fall color seemed out of place. We had coaxed our four-wheel-drive vehicles several miles down the wash over a couple of ruts to a small forest of elephant trees, of the Torote Blanco



The author and her husband set off to find the "snout," a white dripping wall.

variety described by Dr. Edmund C. Jaeger in the November 1956 *Desert Magazine*. Those Dr. Jaeger had seen on the Vizcaino Desert in June were leafless, but our trees were well-leaved, and alongside the green-leaved ones were some whose leaves had turned to autumn yellow. Could it be that for these strange trees autumn comes in April?

Rugged Terrain

To the west lay the mountainous backbone of the 800-mile-long peninsula, a large part of it accessible only on foot—hundreds of canyons and ridges that show no sign of man's passing, blank spaces on the map. We have found some of these areas great fun to explore; they nearly always have rewarded us with a surprise.

So we turned westward toward the low red volcanic hills. Below us the jeep trail threaded between our ridge and the next one over—a trail recently scratched down the gulf coast from San Felipe a hundred miles southward to Gonzaga Bay, then slanting inland to join the main peninsular road near Laguna Chapala.

Beyond the road, ridge followed ridge to drifting clouds from the Pacific Ocean. Full rounded masses of froth, they rolled over the divide, then quickly stretched into thin sheets from which fragments tore away and vanished into the desert air. We were on

a narrow section of the peninsula, a waistline where the Pacific and the Gulf are only 50 miles apart.

To the southwest a white drift lying in a distant canyon bottom caught our eye. "It looks like snow, but it's probably sand," said Niles.

Through binoculars we saw a glacierlike snout above the white patch. "A drift of sand wouldn't break off like that," I countered.

"Let's walk over for a closer look," said my husband.

We took off down a spur that headed southwest. Before the white drift fell out of sight behind a ridge, we took a bearing on a red-brown peak that rose immediately above and to the west of it.

The volcanic rocks clanked metallicly underfoot. Some looked more like rusty iron plates than rocks. Others were contorted into odd shapes. One, a shallow bowl just right for a bird bath, caught my eye, but Niles hurried me past it before I could say, "I'd like to have that for our back yard." We found sea shells a half-mile inland from the gulf.

Flowers in Bloom

At this Easter season these hills too were experiencing a resurrection. In the washes wild desert lilies pushed up among the rocks, and rosy verbenas drifted over sandy ridges; creosote bushes and primroses lent a golden

touch to the slopes, and gilia and dwarf lupines spread lavender-to-purple carpets on the mesas. A couple of ravens soaring overhead cawed scoffingly, and a rock wren trilled from a pile of boulders.

After climbing up and down slopes for an hour without once catching a glimpse of the white drift, we stopped on a ridge-top to let a vagrant breeze fan us, and to enjoy a big drink from the canteen. "I'm beginning to think we're chasing a mirage," said Niles.

Though only mid-morning, it was warm, especially in the gullies. Shorts might have been more comfortable than our long marine pants, but the trail was not well-cleared of cactus, and, too, keeping the body covered is a matter of water economy in unfamiliar country. Desert air draws off body moisture more slowly when one is covered.

There is a scarcity of good land-

marks in this country. Maps with topographic detail are non-existent. A lost hiker is in serious trouble here, for he is not likely to find either water or human habitation within the space-time he can survive without it. In such a situation, keeping the body covered can spell the difference between life and death.

Across the Mesas

We walked across a big mesa honeycombed with rodent holes. A second mesa supported a good stand of ocotillos with wands flaunting red flower banners. Small volcanic pebbles, set in a close wind-polished mosaic, made patches of pavement here and there on the mesa. Off to the right we looked down into a craterlike sink lined with creamy-buff pumice dust.

We had hiked about four miles and were coming in line with the landmark peak. Six or seven miles farther inland lay the ruins of Mission Santa

Maria, the last project of the Jesuit Fathers in Baja California. Begun in 1767, less than a year before the Jesuits were expelled from the New World, it was never completed.

Was it possible that this desolate area could ever have supported enough Indians to build a mission? History records that about 300 of them lived at Santa Maria; some brought there from other locations.

On a beach 35 miles north of Bahia de San Luis Gonzaga we had found shards of rough brown pottery mixed with shells and obsidian chips similar to that which the Cahuilla Indians of our Colorado Desert once made. The gulf afforded an abundant supply of fish food, and shore birds and eggs. Such a moist diet might also take care, to some extent, of the body's water needs. We understood why the Indians often protested against being moved inland.

Father Baegert, an Alsatian Jesuit, characterized the Indians of Baja as "stupid, dull, coarse, dirty, insolent, ungrateful, lazy liars, slothful in the extreme." Scientists have found that dehydration can make a man inefficient, uncooperative and low in morale, and these Indians probably never knew what it was to maintain in their bodies a satisfactory water balance for any length of time.

Mission Santa Maria is more easily approached from the main peninsular road between El Rosario and Laguna Chapala. At Santa Ynez an old trail takes off east into the mountains. Six hours by muleback is a tiny spring of good water near a grove of native fan palms below which lie the roofless remains of a chapel and out-buildings, and the remnants of an irrigation ditch.

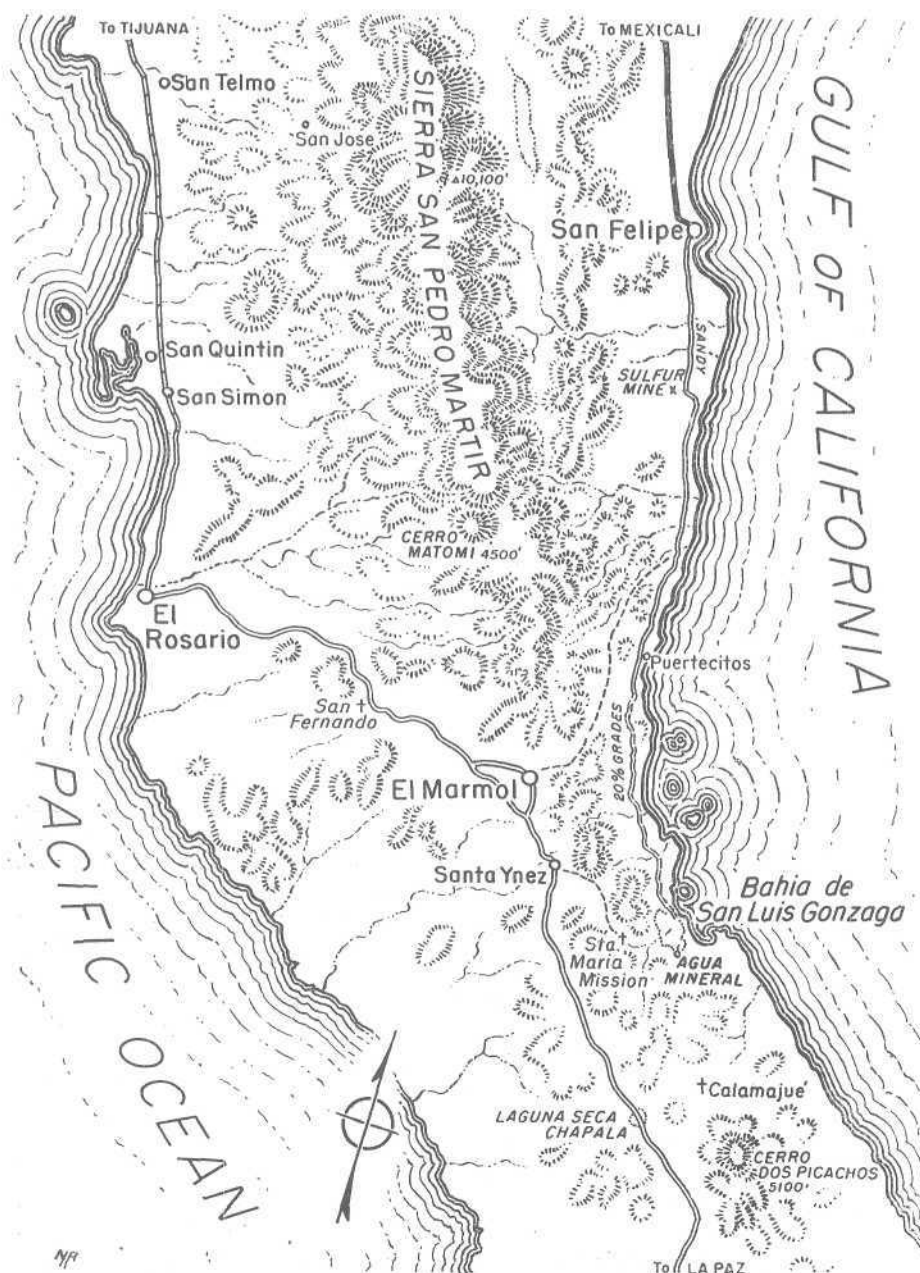
We passed our landmark, the peak, rounded a bend in the canyon bottom, and there it was—the snout, a white dripping wall!

"Of course!" said my husband, "a mineral spring!"

Mineral Spring

Water was trickling over fresh deposits of snow-white salt into small pools. Even at close range the scene resembled a glacier—a river of ice filling the canyon bottom. But, above the initial pools all was dry and crisp. We walked up the rough terraces for half a mile to where the canyon floor again took on the red-brown coloring of the surrounding terrain. At its widest point, the salt deposit was 300 feet. Across intervening ridges and washes sparkled the blue waters of the gulf—four miles east and 1000 feet below.

We ate lunch under a stunted elephant tree, the only vegetation that had taken root in the salty crust. Ocotillo, those hardy adventurers among



the desert plants which we had often seen crowding the edges of other Baja salt flats, here kept their distance on the red-brown slopes well above the mineral deposits.

On our way down we sampled the water in the largest of the crystal-clear pools. It was warm, and tasted like epsom salts, indicating the presence of a generous amount of magnesium. Below the snout, sheets of travertine—layered rock built up from mineral deposited by water—lay scattered along the wash.

The winding wash was joined by side washes, then gradually widened, straightened out, and headed for the gulf. It contained more moisture than other washes we had seen that day, for in it lupines grew tall among sage, saltbushes and smoke trees. The air was alive with doves, sparrows, dragonflies, butterflies and bees. It would have been a pleasure to have followed the wash all the way to the gulf, but that would have taken us too far south of camp. So we cut left over the ridges,



When they reached the ravine they found water trickling over snow-white flakes.

and when we got back to camp we had hiked a total distance of 10 miles that day.

The gulf road pavement ends at San

Felipe, 125 miles below Mexicali. A jeep road continues south along the coast 100 miles to Bahia de San Luis Gonzaga. The 20 miles of road south of San Felipe, leading to a sulfur mine, has stretches of deep sand. Puertecitos, 35 miles below the mine, contains a store and a few cabins. Sometimes gas is available here at 40 cents a gallon—but the supply is not dependable. We carried 10 extra gallons on this trip. There are a few boats for rent at Puertecitos, but you must bring your own motor. Though this is essentially a jeep road, we saw several standard cars as far south as a cove a few miles below Puertecitos.

South of this cove the road climbs over mountain ridges. The trail here is rough, with several 20 percent grades, out-sloping ledges and high centers. It is a long way from towing services, repair shops and spare parts stores. Vehicles unable to return under their own power usually are abandoned.

There is no permanent establishment at Gonzaga Bay. It still belongs to the blue herons, curlews, pelicans, gulls and plovers which follow the tides out over the volcanic reefs to feast on snails, clams, octopus eggs and live sponges.

The 100 miles between San Felipe and Bahia Gonzaga is a good day's drive. Puertecitos and various other beaches along the way provide delightful campsites.

We found shelter over our sleeping bags unnecessary in April. Easter and Thanksgiving probably are the most dependable seasons during which to make this trip. June through October are the hot and also the stormy months on the gulf, when the dreaded chubascos occur.—END

Hard Rock Shorty of Death Valley



"Yep, we have rain here sometimes," Hard Rock Shorty was telling the dude who had stopped at Inferno store to repair a tire on his Model T Ford. "Only trouble is, it all comes at once—maybe you've heard about them cloudbursts.

"Had one of 'em 27 years ago. Me and Pigsaw Bill wuz workin' that claim o' his'n up in Eight-ball crick. Tunnel goes right into the side o' the wall o' the canyon. We wuz follerin' a little seam o' quartz that showed some gold.

"Wuz rainin' outside but me an' Bill didn't think much about it 'til our burro, standin' in the little cave at the mouth o' the tunnel began to snort. Then we heerd a roarin' noise 'way up the wash.

"We knew what that wuz. 'Cloudburst,' yelled Bill as he ran to the tunnel entrance. 'Six feet o' water rollin' down the wash,' he shouted back.

"There wuzn't time to git out. Looked as if me an' Bill'd be drowned like rats in a hole. But Bill's got a lotta brains an he

started usin' 'em right now. We had a couple wagon-loads o' that quick-settin' cement stored inside the entrance to the tunnel.

"'Bring them sacks o' cement out here,' Bill yelled. So I started packin' cement bags to him an' began dumpin' 'em across the entrance, jest outside o' where the burro wuz standin'.

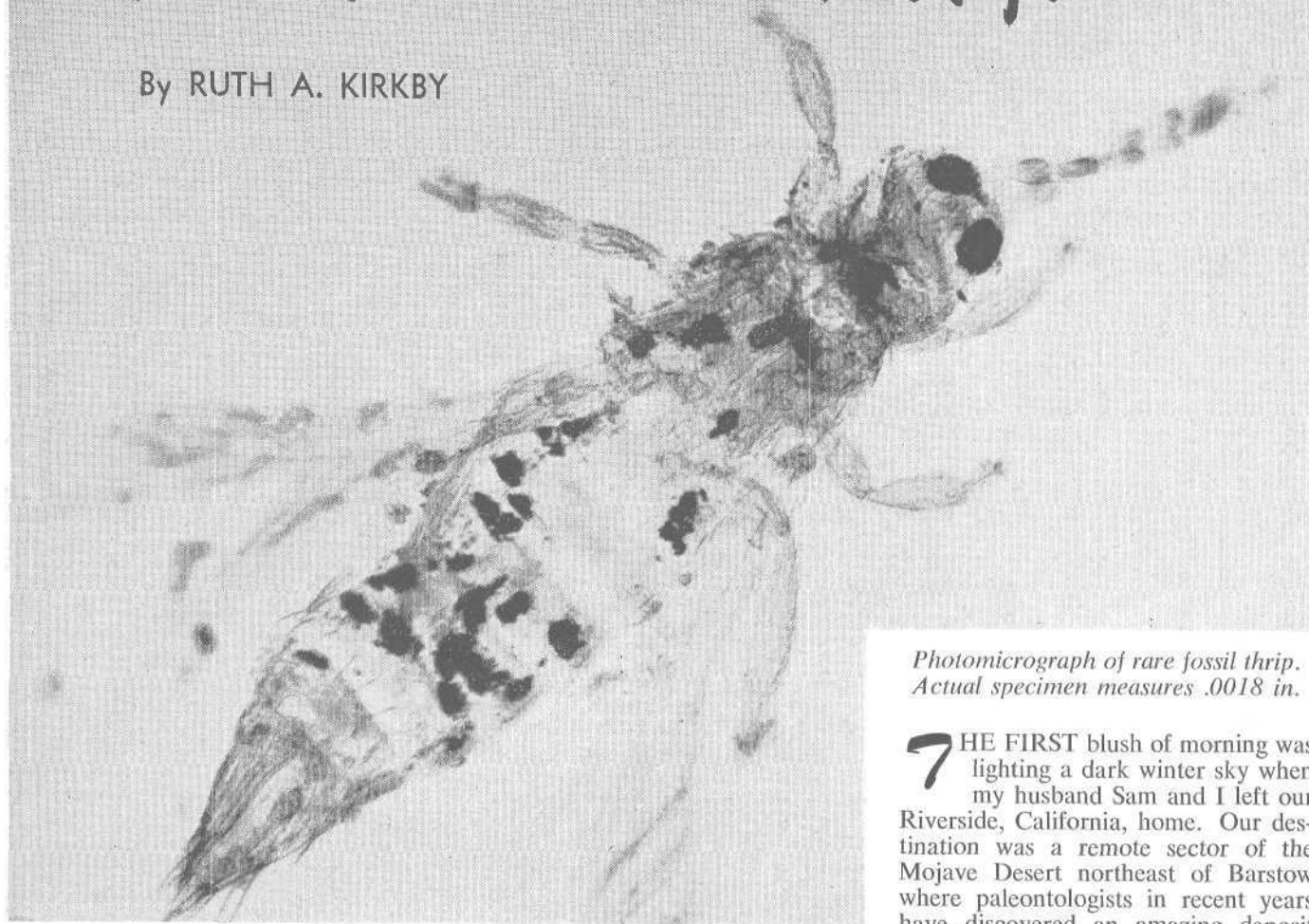
"That burro knew what was goin' on, and as fast as I throwed them bags on the floor the burro planted hisself there and started kickin' out to Bill. Stuff hardened as fast as Bill dumped it on the wall he wuz buildin'.

"Yessir, we worked two hours like that, jest keeping about three inches above that risin' water. The last cement sack sealed 'er tight, an' there we wuz in the tunnel with 20 feet o' water goin' down the wash outside.

"But before long that water started fallin' agin, and if Bill an' me hadn't had a case o' beans inside that tunnel we'd a starved to death before we could pick a hole in that wall and let us and the burro outta there."

Fossil Insects from the Mojave

By RUTH A. KIRKBY



*Photomicrograph of rare fossil thrip.
Actual specimen measures .0018 in.*

THE FIRST blush of morning was lighting a dark winter sky when my husband Sam and I left our Riverside, California, home. Our destination was a remote sector of the Mojave Desert northeast of Barstow where paleontologists in recent years have discovered an amazing deposit of fossilized prehistoric insects.

I learned about this field from University of California geologists who had done previous work there. Each of the many trips we have made into this area yielded new information and produced new mysteries bearing on the creation and evolution of life on this planet.

The sun was bright as we moved through a narrow pass over a rough and winding desert road to our destination, an area where the sedimentary rocks of an ancient lake have been uplifted to form a broken mass of hills, warped strata, plunging folds and faults—a terrain eroded into badlands. In the process of uplift, the earth's crust has been folded and twisted into weird

About the author—

Ruth A. Kirkby is Consultant on Geology for the Riverside, California, Municipal Museum. More specifically she is a specialist in paleobotany currently doing research with plant fossils for future publication. She has lectured throughout the country on geology, and when out on the lecturing circuit never misses an opportunity to take side trips into promising geologic areas.



Science has made exciting fossil insect discoveries in the Barstow Badlands—perfectly preserved three-dimensional specimens that lived 300,000,000 years ago.

formations. It is here that paleontologists have discovered numerous nodules containing the well-preserved forms of insects which lived on this planet millions of years ago.

Insects constitute 90 percent of all living things inhabiting the earth today—which explains in part the importance of fossil study. Geologically speaking, we are living in the Age of Insects.

Man—even with his superior intelligence—has been unable to conquer these diminutive creatures. So fantastic is their birthrate, they quickly develop immunities to our most effective insecticides. We are constantly challenged to control vast hordes of insects that plague our daily lives.

While many insects are beneficial and necessary as plant pollinators, harmful ones cause every farmer in the world to grow one acre's crops out of 10 for insects.

The Battle of Bataan was not lost because of superior enemy forces, but because our boys were attacked by a small malarial mosquito. Reports of insects interfering with aircraft at the 5000 foot level have come from several Western states. And what gardener has not had trouble with these pests?

Insects have existed on our planet for many millions of years, adapting themselves to all conditions imaginable. They live in the coldest and the hottest climates, and they fly, swim, crawl and burrow.

Earliest evidence of insects is found in rocks from Devonian times, approximately 300 million years ago. These fossils are of an extremely primitive type of insect. The period following was the Carboniferous, when world climate, as revealed by fossils, was lush and tropical. Insects were giant in size, some dragonfly types found measuring a record 29 inches across. However, the next period, the Permian, was a cold glaciated time, when harsh climatic conditions caused changes in many life forms.

Fossil insects were not again common until the flowering plants or angiosperms began to develop. From my own collecting experience at numerous localities, rarely are insect fossils found where there is no evidence of flowering plant fossils.

Fossils as carbon impressions on



Author checks float in fossil area.

fine grained shales are the most common. Insects in amber, fossils of insect foot impressions on fine grained sandstone, borings in fossilized woods, and preservations in tar, peat and bog deposits all have been found. Insects frozen in ice are another form of fossilization. An unusual type of insect fossil is that found in onyx marble.

But, the rarest type of insect fossils, in the best state of preservation, are the specimens found in little nodules from the Mojave Desert deposits.

These fossils are three-dimensional, not pressed flat as in an impression, and details of form and structure are lifelike. Insects appear to be the dominant form of life found in the Barstow deposits, and an intensive study is being made of these important creatures by my fellow scientists and I.

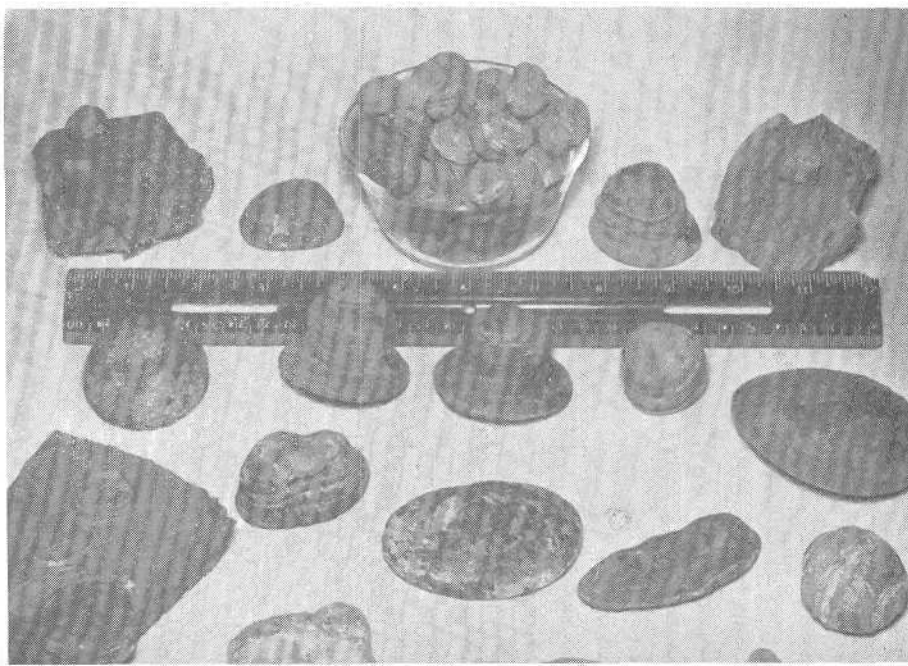
In some of these nodules are the most phenomenal fossils ever recovered from the treasure house of the earth's sediments. Fossils so perfectly

preserved in silica that even the most minute details are discernible; rare forms that have seldom been found in any area of the earth. Fossil insects with internal organs clearly visible, fossil hairs, eggs with embryos, compound eyes with many facets, algae revealing cellular structure or delicate gauzy wings—all preserved in minerals.

The dusty desert hillsides in the Barstow formation are of Miocene times, deposited between 10 to 30 million years ago, and containing colorful sediments eroding into raw barren hills. They are devoid of vegetation except for the most tenacious desert plants. From several of these locales Sam and I collected small nodules on the morning of our last trip into this area.

It was necessary in some places to recover specimens the hard way—by using a heavy pick to break away the matrices in which the nodules are deposited. These stone balls, from a quarter inch to over two inches in diameter, occur in a wide variety of

Varishaped nodules contain a wealth of fossils, but secret of their formation remains a mystery to science.



shapes: round, oval, flat and oblong. We even found some that resembled little derby hats.

After digging for several hours in one of the layers of sediments in which the nodules are deposited, we had about a quart and a half of these odd-shaped stone balls in our pack sack. Ventilation is poor at the diggings and the odor from the petroliferous limestone is strong. Nodule collecting is hard work.

Just before lunch, Sam found a strange-looking nodule which resembled bread dough rolled around a twig. Upon closer examination we discovered the segmented form of a dragonfly nestled in the depression. It was a thrilling discovery — and we were humble after realizing that we were the first humans to view this ancient creature.

We tried to envision this land as it was millions of years ago when our dragonfly was alive. A lake covered a wide portion of the area. Green shoreline plants swayed above the water, palms fringed the bays. Primitive camels and horses came to the shore for water, insects swiftly skimmed across the watery mirror, cocoons rocked to and fro from green stems on which they were fastened, and little water creatures were in their natural habitat. In some places along the shoreline, ripple marks formed as water subsided and left the record of the waves—marks that are still visible today.

At some time during this happy scene, a phenomenon occurred that caused the various forms of life in and around the lake to be fossilized in silica—preserved in the most perfect

details. Another occurrence may have caused the formation of the nodules containing these fossil treasures. Geologists differ in their studied opinions and educated guesses as to what these phenomena might have been.

Evidence of this life is hidden in the nodules until etching with acid reveals it to the scientist. Only in this way can the delicate fossils be recovered so perfectly.

Many questions remain to be answered about this wonderful occurrence. What formed the petroleum? Did the organic residue go out into petroleum as petrification took place? Why are the nodules weathered when found in matrix? Did erosive forces weather them from their original deposit and later bury them in new sediments? Why are the fossils preserved in various minerals? Does this indicate several occurrences?

Allan Bassett of the U.S. Geological Survey is credited with starting this new trend in fossil collecting. He sent two nodules from the Barstow formation to Dr. Allison Palmer in Washington, D. C., in 1954. Dr. Palmer recovered a partly revealed dragonfly from one of the nodules. Meanwhile, another member of the Geological Survey, K. E. Lohman, discovered insect fossils in some of the Barstow nodules.

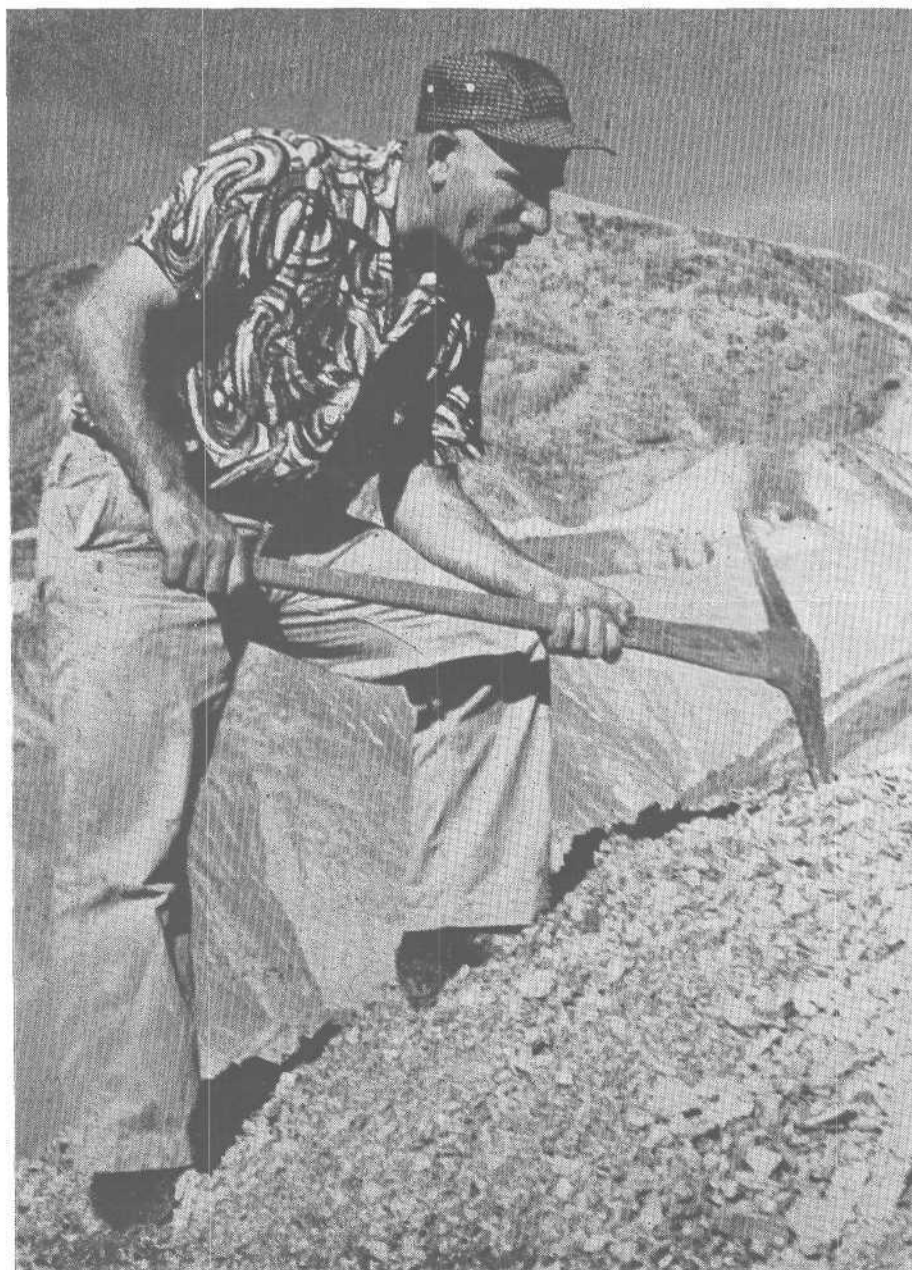
Dr. Palmer published his findings from this site in 1957 in a Geological Survey paper. Dr. W. Dwight Pierce, Los Angeles paleo-entomologist also has done extensive research here. Dr. Pierce published the first of a series of papers on this subject in the Bulletin of the Southern California Academy of Sciences, Vol. 57-1958. My research and study during the past five years are providing material for a paper that I am currently preparing.

At home, an assortment of bottles hold our nodules while formic acid begins the work of dissolving the matrix from the microscopic silica fossils. Some nodules yield a great many specimens, others only a few.

It is exciting to see the compound eyes of an insect—glassy, silicious, gleaming back through the eyepiece of the microscope. The eyes of a creature that lived so long ago are preserved in fine detail. The delicate appendages with hairs and protuberances on the segmented exoskeleton, the mandibles of a crustacean or the delicate membranous balloonlike wings of a fly are replaced in crystal clear silica.

Yes, this is scientific wonderment! This is real discovery from our desert regions that offers a thrill to the explorer.—END

In some locations Sam Kirkby must use heavy pick to free nodules from matrix.



TENDERFOOT CRUISE ... ON THE VERDE

Two society reporters, a San Francisco artist—and one lone white collar man! What this strange crew lacked in experience it made up in enthusiasm for the three-week "cruise" down the Verde River in Arizona. In their tenderfoot tale there are laughs — and serious lessons for the boating fraternity.

By MARGO GERKE

IT TAKES MORE than enthusiasm to make a seasoned camper out of a tenderfoot. I learned this the hard way seven years ago, on my first camping trip.

Just out of college, I had been working for a year as a society reporter on the *Pasadena Star-News*. I had been lucky to land a job on a daily newspaper, but the society desk lacked the thrills of deadlines and scoops which my youth had attached to journalism. As an escape from the frilly adjectives of women's club news and endless wedding stories, Peggy Powell, assistant society editor, and I developed a burning interest in camping and the outdoors.

Peg had read of a rubber raft trip down the Verde River in Arizona. She recalled some of the article's vivid descriptions of this "mischievous river . . . roaring over rapids, splashing through shallows . . . bursting forth in a gay spurt of foam and spray." What a perfect breather such a trip would be, Peg and I agreed, before

the annual flood of June brides inundated our desks.

It was a job to convince Peg's practical and sensible husband, Johnny, that this was how he should spend his three-week vacation that year. Less pressure was necessary to enlist Mary Flehr Schroter, my college roommate and then an artist in San Francisco, as fourth member of the crew. We arranged vacations for the middle of May.

A map of Arizona placed the Verde almost exactly in the center of the state, a river gathering life from countless streams which flow into its valley from side-canyon, creek bed and high plateau. There were Indian relics to hunt, shore-side mineral beds to explore, still pools to fish. We even fostered visions of rich uranium strikes, or a stumbled-on lost gold mine.

We had three months to plan. Peg, Johnny and I met almost every night. Mary added letters of encouragement and advice.

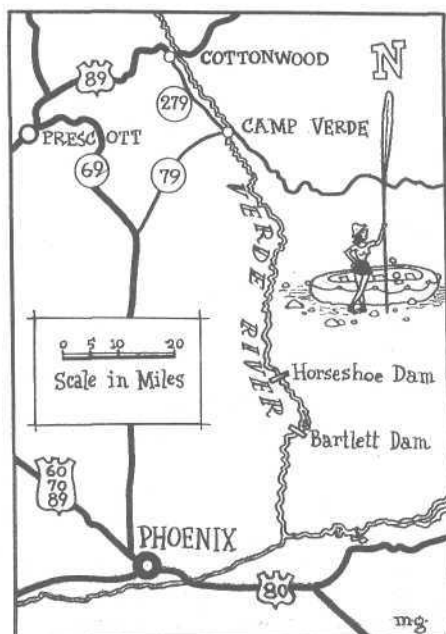
It was decided early that two seven-man life rafts (each as large as a double bed) were needed to transport our quartet and three weeks' gear downriver. We bought the rafts at Army surplus, painted their yellow sides appropriately green, added bailing buckets and oars, tire pumps, emergency patches and Mae West life jackets, the kind instantly inflated with a whoosh of CO₂.

We took the boats to Salton Sea one weekend for a trial run. We tried to imagine the fierce rigors of river rapids as we repeated rowing and bailing drills on the sea's placid calm. The craft were seaworthy and, if not readily maneuverable, at least dependable.

Menus were planned, marked and separately packaged for each day of the trip. The word "portage" was not yet included in our vocabulary, and Peg and I blithely bundled canned fruit and beans and heavy tins of meat



"Our outfits were, we thought at the time, both charming and practical."



and Boston brown bread. When Johnny viewed the food pile one evening—18 days' fare spread in chronological order across the living room floor—our pride was so obvious that he didn't have the heart to criticize such efficient preparations, just because of a little extra weight.

Forewarned of inevitable river dunkings, we carefully removed all paper labels and painted coded descriptions of contents with fingernail polish on the naked tins. We rehearsed the difference between "BBB" (Boston baked beans) and "BBBr" (Boston brown bread), and cataloged everything in triplicate.

Our long lists were constantly edited. Packing preparations in every department were thorough and, we thought, marvelously efficient.

There were sleeping bags, warm clothes for chill nights, sun helmets and shorts for hot days, canteens and pure-water pills, cooking gear, snake bite kits, bandages, emergency K ra-



tions, a Geiger counter, sketch pads, notebooks, cameras, and waterproof boxes of endless miscellanea. Everything was wrapped in lookalike green plastic bags. It all fit, with just enough leftover room for the crew. Each boat weighed what seemed like half a ton.

We girls, naturally, were preoccupied with clothes. The outfits we selected were, we thought at the time, both charming and practical. I remember one costume of mine: white corduroy shorts, a cotton blouse abloom with printed flowers, velvet daisies on my sun helmet brim—and a pair of surplus-bought paratrooper boots, size 5E (the narrowest available), with heavy wool socks to stuff the space between leather and foot.

"The exciting flight down the wrong channel was hardly worth the push back upstream."

The party whose trip inspired ours had entered the river at Camp Verde, 75 miles almost due north of Phoenix, and had traveled 65 miles to Horse-shoe Dam.

We planned to float about 20 miles farther, to Bartlett Dam, a popular fishing spot where we could park our second car. Acknowledging "some" inexperience, we decided to add 16 miles to the fore end of the journey by launching upriver at Cottonwood. Although it would mean an extra half-day's travel, this would give us valuable boating practice, Johnny argued, before we would hit the rapids our

predecessors mentioned their first day.

"And, in case we've forgotten anything, we can pick it up at the store there," he added. "We leave civilization at Camp Verde, you know. Not even a whistle stop for 80 miles beyond." Peg and I were smugly silent in the knowledge we had thought of everything.

Early morning, May 16, 1951, we broke overnight camp at Cottonwood and splashed our laden rafts into 14 inches of Verde River water.

Ships Away!

The launching was accorded all the ceremony it deserved. A bottle of soda pop was spilled solemnly over the bow of first the *Verde Venturer* and then the *Verde Valiant*. We were careful not to get our feet wet as we shoved off.

Fifty yards later we met our first obstacle—a fallen tree which bridged the river and dangled enough branches and vines to block passage underneath. Johnny vaulted over the side—and disappeared under a suddenly-floating sun helmet. Without warning the 14-inch creeklet had grown to 10-foot depth. All of us treaded water to push the boats through.

That first day was beautiful. Warmed by sunny, clear blue skies, delighted by the music of river ripples and the calls of songbirds from tree-lined banks, interested in the work of beaver engineers, we didn't complain about the ever more frequent dam-skirting portages, and the ever longer stretches of shallows. By night's camp, it was too late to turn back.

We beached at dusk, on a wide grassy bench where a tributary creek entered the Verde. It became a colorful camp, every bush bright with soaked clothing and gear, spread out to dry. Boats were overturned for comfortable beds.

We consulted the map over supper. Our Verde route occupied about 18 square inches of a four-by-six-foot map of the state of Arizona, which we kept rolled in waxed paper and plastic in an oar-long mailing tube.

"Just Around the Corner"

"This must be Beaver Creek," Johnny decided. "Camp Verde is just around the corner. We should spot the bridge by noon."

It wasn't Beaver Creek, and we didn't reach the Camp Verde bridge until three days later.

For four days—four of the most exhausting days I have ever lived—we pushed, pulled, coaxed and cajoled our bruised-bottom boats a total of 16 miles.

With all our planning, our lists, our pure-water pills and bailing drills, still one thing was lacking. Water! Blinded by visions of "roaring rapids" and

"swirling pools," we hadn't thought to check water tables or run-off reports.

For 10 hours the second day, expecting the Camp Verde bridge around every bend, we scraped along. Catfish sunbathed at our feet, their dry backs humped above the shallows. An occasional water snake splashed under a hull.

The Verde was full of whimsy. At one minute she wound narrowly through tangles of overhanging branches, then almost disappeared in rock-strewn shallows, then slyly redeepened to dunk the boatsman who leaped off astern "to push."

A Weary Diet

Lunch stops every other hour rationalized rest with food — and increased at faster rate our boredom with "BBBr" and canned fruit. We were too weary to wonder what the three ranch hands who fished from a shady bank thought of the apparition we presented as we dragged our party into view. We stumbled through two portage hauls, unloading heavy packs and carrying first them, and then the near-empty but still staggering rafts around river blockades.

My ill-fitting boots long since removed, my feet were painfully sunburned, and every step was torture.

Camp was made by flashlight, four wilted river rats going through the barest motions necessary for dinner and bed. Even coffee failed to perk us up enough for conversation. The pure-water pills were guaranteed to make drinking water safe, but they

also added an intolerable iodine flavor. Tired as he was, Johnny hiked by flashlight up a tributary stream and brought back a canteen of spring water for breakfast.

That night, without compunction, we jettisoned the life jackets.

Breakfast next morning was the best of the trip, with spring water coffee and French toast fried in slathers of pure butter we feared would spoil in the heat. Already rotten were seven avocados I had picked from my family's trees and coyly stored in a large tin which gathered enough moisture to develop a mould. I had hoped that a surprise fresh avocado salad would so delight my portage-partners that they would not criticize the added weight.

We weren't far a-sail on the third day when an annoying doubt began to undermine our confidence.

"Are you sure this is the Verde, Mary?" I asked.

"I'm not even sure it's a river," she humped in reply.

The thought was unsettling. We had assumed, since the highway crossed the river at Camp Verde, that there had to be a bridge. I stopped pulling for a minute and measured the river again. I could have driven across in my Ford, without getting the hub caps wet.

The idea plagued us all day until,

"Totally exhausted, we tugged the boats along, stopping every 100 yards to rest."

suddenly, in late afternoon, our Verde was a river, a swift-pulling demon swirling down the narrows and going like the wind. We pulled in oars and, heads ducked, navigated by pushing away from thick overreaching branches.

This was river-running! We shot past cottonwood trees, reedy marshes, deadwood tangles and beneath a fallen tree trunk bridge. The *Valiant* bounced over a submerged mat of twigs, spun through a miniature Charybdis, sped on.

It was too good to be true. Suddenly skeptical, we agreed reconnaissance was in order. When a foot bridge hove into view, each grabbed a beam and pulled to a stop. Mary tied fast, then climbed up to look.

Farm Fields

Beyond the dark tangle of bushes and boughs, flat farm fields stretched far as the eye could see.

Our "river" had forked into an irrigation canal!

Back we plodded in waist-high water, silt to our knees, dragging our boat upstream against the current it fought to follow. An exciting trip down three-quarters of a mile was hardly worth the struggle back. Fortunately, the *Verde Valiant's* sister raft had decided to make camp at the canal's mouth. Peg and Johnny had supper ready and coffee on.

The fourth day dawned too early. Irrigated fields meant a difficult portage first thing. Already tired at 8 a.m., we somehow blundered around a



rancher's dam, and set to pulling again. It was hot and beautiful—hot enough and beautiful enough to coax us into cool shade to rest under the pretext of admiring Nature's Verde Valley wonders. River bank foliage, clouds and sky, even the perversely shallow water with its glints and reflections, were magnificent.

Scratched, peeling and punctured by the abrasion of thousands of rocks and

roots, the freshly-patched *Verde Valiant* was still leaking badly when we rounded a bend shortly after noon on the fourth day. There before us loomed the Camp Verde bridge, its dark steel stretching like a cat's cradle from shore to shore. No long-sought Golden City looked better to Coronado than this latticed silhouette did to us.

In a way, we hated to quit our Verde adventure. But there was no

choice. It was almost 80 miles to a second exit; the boats had suffered too much, and the water ahead appeared neither swifter nor deeper. At our average speed, it would have taken 23½ days more to complete the trip we had planned.

Johnny hitchhiked back to Cottonwood for the car. It took him 45 minutes to accomplish round trip the 16 miles we had suffered four days afloat.

Over the evening campfire we reviewed the mistakes we had made.

Mistakes

Number One mistake was: wasted space and too much weight. Our philosophy had been to take the largest boats we could find, to allow plenty of room for all the gear we felt was needed. Five-man rafts would have been a better size, with supplies trimmed to fit.

We should have taken dehydrated foods, now available in meals as complete and ready-to-heat as those in cans, and strive for more menu variety.

I, especially, was vehement about boots. My paratrooper specials had looked sturdy, and they were inexpensive. But they hurt. And they were heavy, and too large. Well-made, perfectly fitting footgear is a necessity on any extended hiking trip.

Advance study of the country is essential, and a map more wieldy than ours, and limited to pertinent areas, is recommended. If it is to be a desert dry-land trip, study plans of water-holes and access roads; for river-running, check water reports!

According to Experience

Most important of all, greenhorn campers must be careful not to bite off more than they can chew, especially in wilderness where help is not readily available. Keep the first trips short, and extend them only as experience grows, not according to enthusiasm or the number of days your vacation time happens to run.

Mary wrote down the lessons in her notebook, and we made tentative shopping lists for "next time."

The overturned rafts deflated sadly until, no longer comfortable as sofas, we opened the valves and rolled the airless forms into the car trunk.

The punishment of four arduous downriver days had taken their toll. The rubber hulls were scratched and battered, and almost bereft of their once-spanking coat of emerald paint.

We, too, were battleworn and spent and, like our vessels, some of the tenderfoot color was gone.

We left our Verde adventure a little wiser—and considerably less green.—
END

Desert Quiz

The old desert rat who writes the Quiz questions for *Desert Magazine* says this month's list is a little harder than usual. But they can't send you to jail for missing a few of them. They cover a wide range of subjects—history, geography, minerals, botany, travel, and the general lore of the desert. Ten to 12 is a fair score, 13 to 15 is good, 16 to 18 excellent, and only an honest-to-goodness egghead would do better than 18. The answers are on page 27.

- 1—An Indian metate was used for—Killing game _____. Storing food _____. Grinding seeds or grain _____. Catching rain water _____.
- 2—Hogan is a Navajo word translated as—Dwelling house _____. Village _____. Medicine man _____. Food _____.
- 3—The mature berries of the juniper tree are — Black _____. Blue-gray _____. Red _____. Green _____.
- 4—According to legend the lost Breyfogle mine is located in—Superstition Mountains of Arizona _____. Southern Utah _____. San Diego County, California _____. Death Valley region _____.
- 5—Coolidge dam impounds the water of the—Salt River _____. Gila River _____. Amargosa River _____. Bill Williams River _____.
- 6—The shore line of Lake Mead lies in two states—California and Nevada _____. Arizona and Nevada _____. California and Arizona _____. Utah and Nevada _____.
- 7—The notorious outlaw Billy the Kid was killed by—Wyatt Earp _____. Apache Indians _____. Pat Garrett _____. Accident _____.
- 8—Western Gecko is the name of a—Lizard _____. Bird _____. Rodent _____. Snake _____.
- 9—Coronado Highway crosses over the—Chuckawalla Mountains _____. Wasatch Mountains _____. White Mountains _____. Gila Range _____.
- 10—Most important crop raised by the Hopi Indians is—Corn _____. Cotton _____. Wheat _____. Tobacco _____.
- 11—Lieut. Ives is known in history as the officer who—Brought the first camel caravan across the Southwest desert _____. Signed a treaty of peace with the Navajos _____. First explored the lower Colorado River by boat _____. Surveyed the first transcontinental railroad _____.
- 12—The ghost mining camp of Skidoo is in—Nevada _____. California _____. Arizona _____. Utah _____.
- 13—Going east on U. S. Highway 80, Pacific time changes to Mountain time at—Yuma _____. Tucson _____. Gila Bend _____. El Centro _____.
- 14—Brigham Young brought his Mormon settlers to Utah primarily to—Find more fertile farm lands _____. Seek gold _____. Gain freedom to worship as they pleased _____. Acquire a federal land grant _____.
- 15—One of the following minerals is associated with copper — Feldspar _____. Malachite _____. Hematite _____. Fluorite _____.
- 16—The Montezuma Castle ruins in Arizona are protected by—National Park Service _____. Forestry Service men _____. Arizona state police _____. Private guards _____.
- 17—The historic old Lee's Ferry was on the — Colorado River _____. Green River _____. San Juan River _____. Gila River _____.
- 18—The Pueblo of the Taos Indians is in—California _____. Utah _____. Arizona _____. New Mexico _____.
- 19—Harry Goulding is a—Guide at Grand Canyon National Park _____. Boatman on the Colorado River _____. Trader in Monument Valley _____. Park Superintendent at Zion National Park _____.
- 20—Going north through Arizona's scenic Oak Creek Canyon the first important town you would reach is—Flagstaff _____. Cameron _____. Holbrook _____. Tuba City _____.

Backpack Adventure in Remote Asbestos Canyon

J. Harvey Butchart followed the old map into the ruggedness of Grand Canyon's Granite Gorge—and it paid off handsomely in the adventure and satisfaction that comes from exploring forbidding terrain.

By MELVIN HUTCHINSON
Map by Norton Allen

DISCOVERY OF old maps which may lead to buried treasure, lost mines or mysterious hideouts is an exciting experience—for there is an urge to adventure in every human being.

J. Harvey Butchart, Ph.D., head of mathematics instruction at Arizona State College at Flagstaff, is no different from others in this respect. But, having a mathematical turn of mind, he sat down and reasoned out just where the most likely place an interesting old map could be found. Then he went and looked, and sure enough, there it was!

Where did Dr. Butchart look? In the time-mellowed files of the County Recorder's Office, of course. It was logical, for here is where maps of mining claims are usually filed when prospectors want to legally establish their proprietary rights.

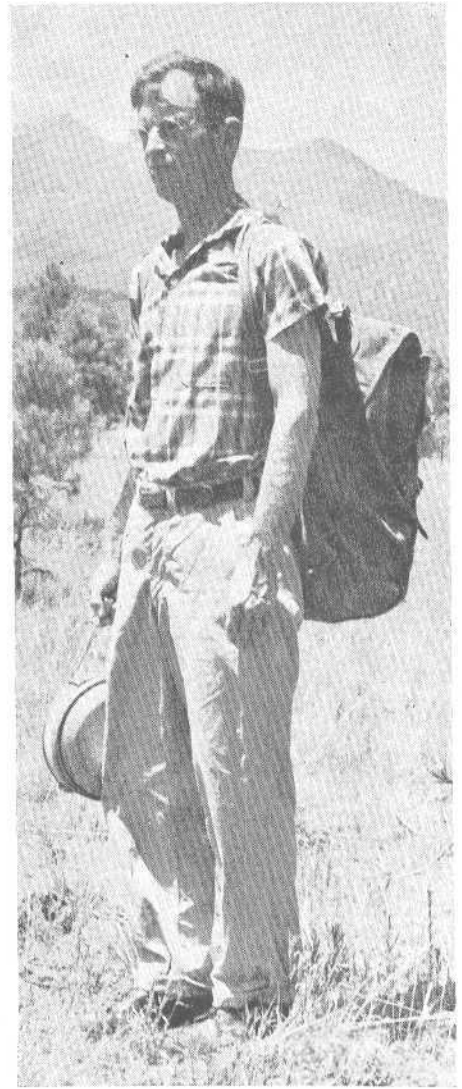
Dr. Butchart's lead came from a mining engineer who had done some research into early-day mining activities in northern Arizona. And he was

aided in the actual search by the good-natured cooperation of Coconino County Recorder Mrs. Edna Mae Thornton.

It was a hand drawn, rather crude but quite legible map, showing a trail to some asbestos mines in the depths of Grand Canyon on the north side of the Colorado River. The map had been filed by five pioneer Arizonans: W. H. Ashurst, father of former U.S. Senator Henry F. Ashurst; Jack Marshall; C. H. McClure; T. C. Frier; and John Hance, for many years picturesque guide of the Grand Canyon trails. Date of filing was January 1, 1893, two years after Coconino County was created from Yavapai County by the Territorial Legislature.

Dr. Butchart studied the map carefully. Its purpose was to locate Asbestos Canyon at the bottom of Grand Canyon, where the five early miners had worked their claims.

The John Hance Trail, which breaks out on the South Rim of Grand Canyon near Moran Point, was vital to the



Dr. J. Harvey Butchart.

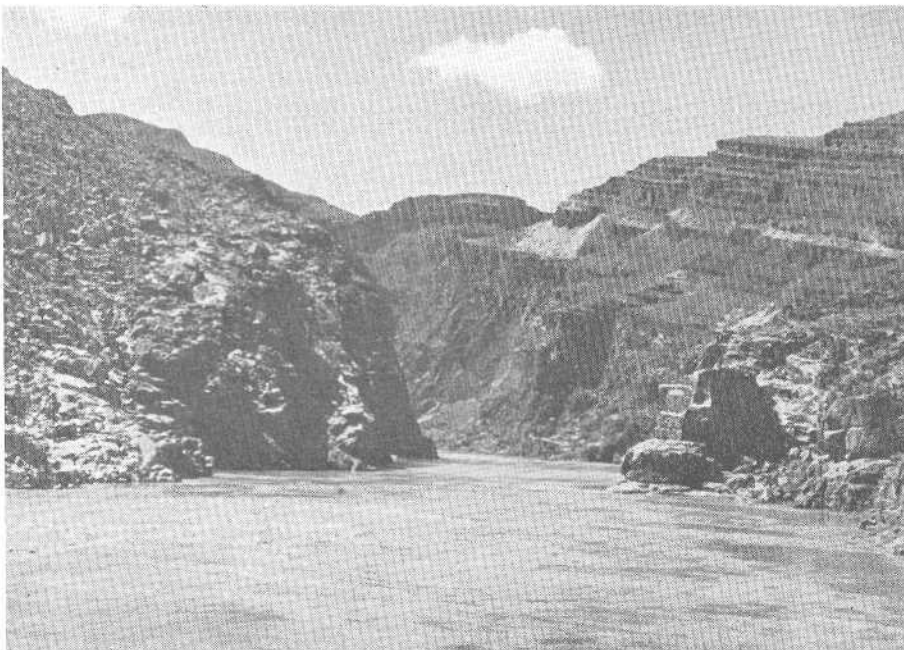
prospectors' scheme. The claims in Asbestos Canyon are nearly opposite the river terminus of the Hance Trail, and the miners planned to ferry the mine ore of asbestos or other minerals across the Colorado River to the foot of the trail.

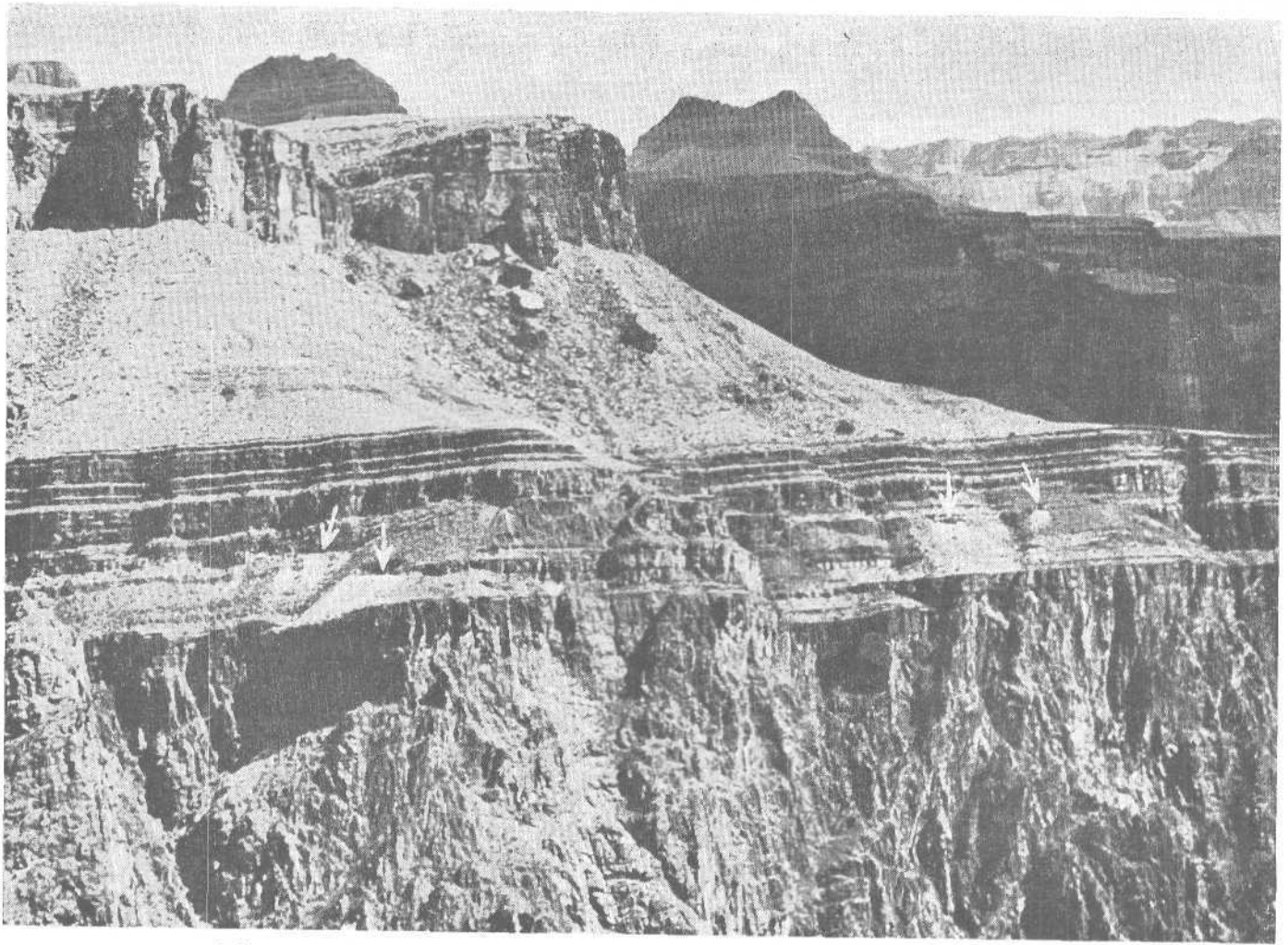
Dr. Butchart was eager to explore the area revealed by the map. He was not especially interested in the area's mining possibilities. Had the records indicated precious gold or silver, Dr. Butchart probably still would have pushed the idea of gaining riches far back in his mind. His enjoyment comes from scaling difficult cliffs—from pitting his skill and resources against the challenge of precipitous terrain. He spends most of his vacation time climbing mountains and exploring difficult canyons. During the college year he leads the Campus Hiking Club on regular weekend jaunts.

He wanted to see the things those five Arizona pioneers had viewed when they mapped forbidding Asbestos Canyon.

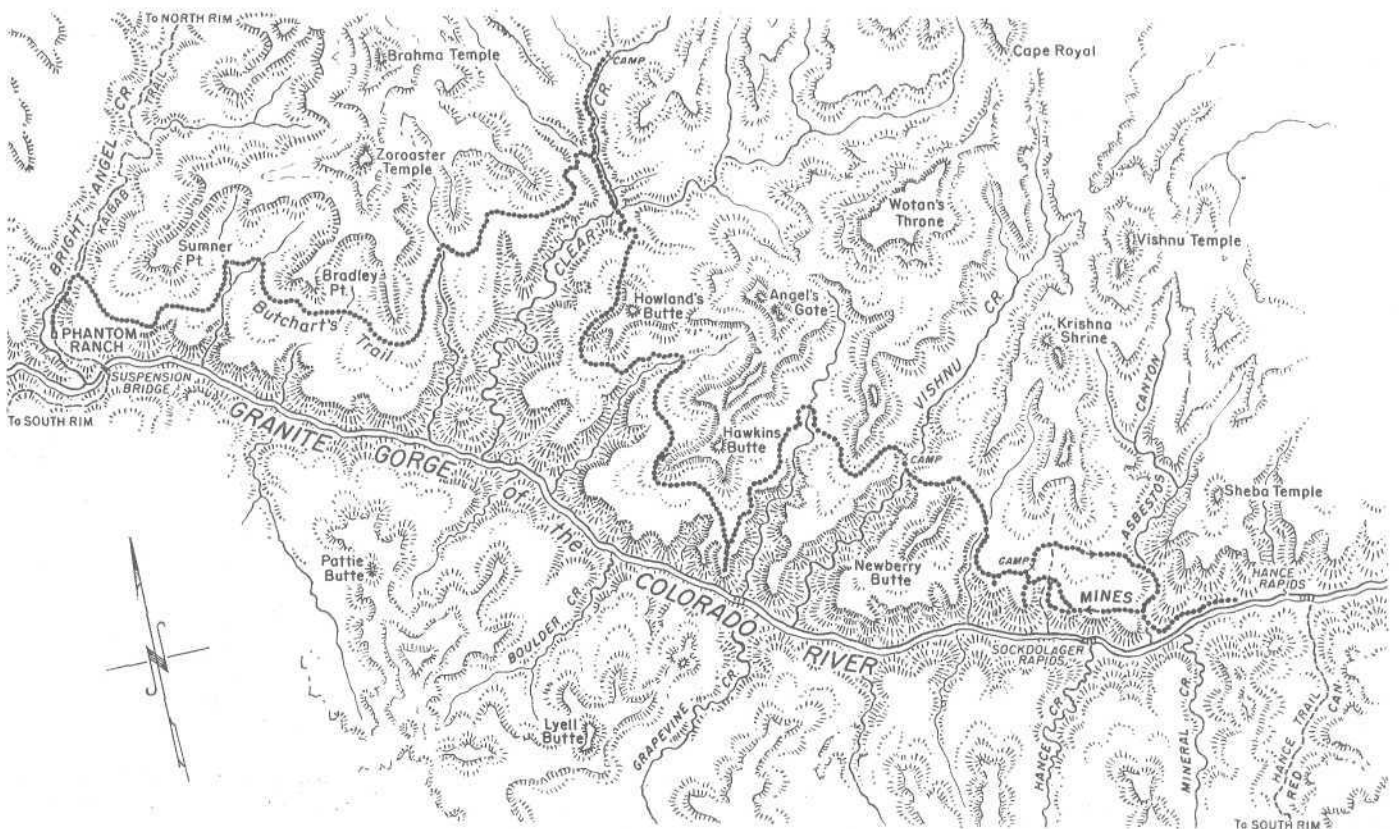
Last Easter vacation, while the student choir of his college was high up

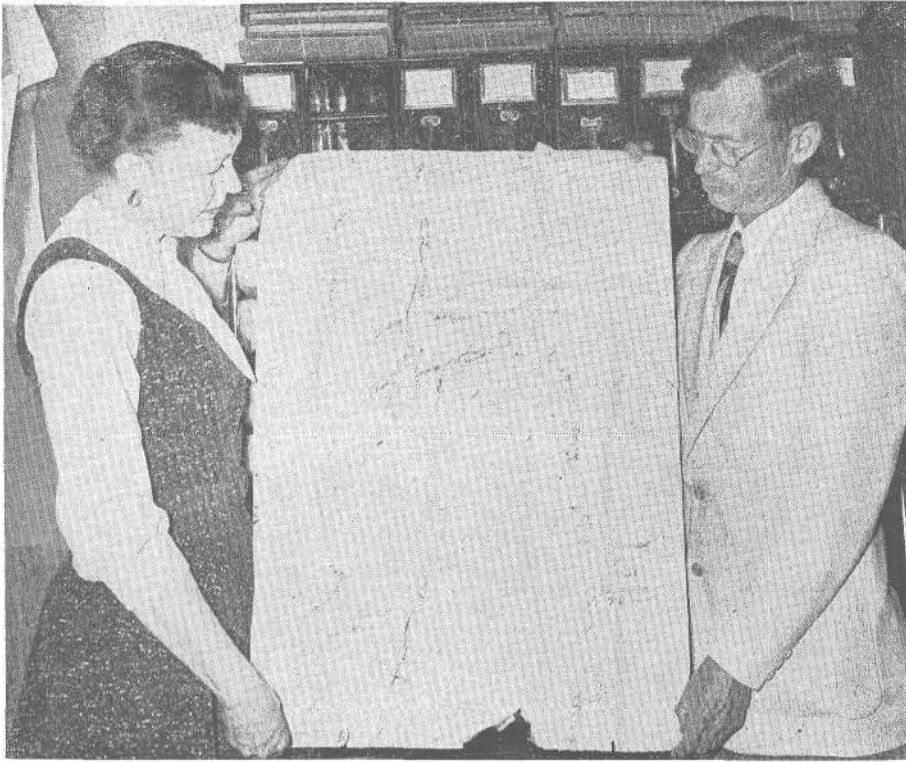
Ferry site below Hance Rapids.





Asbestos workings (arrows) on the north face of Granite Gorge as seen from across the Colorado River near the mouth of Hance Creek. The dark gorge in right background is Asbestos Canyon. Photo by J. Harvey Butchart.





Coconino County Recorder Mrs. Edna Mae Thornton and Dr. Butchart examine the 65-year-old map which locates claims in Grand Canyon.

on the South Rim rehearsing for the 24th Annual Grand Canyon Sunrise Service, Dr. Butchart was in Asbestos Canyon carefully examining the interesting remains of an abandoned mining camp in the depths of Grand Canyon.

Easter vacation at the college began on a Thursday. Early morning found Dr. Butchart striding down the Kaibab Trail. On his back he carried a 26-pound pack—20 pounds of camping gear, six pounds of food. He crossed the river on the suspension bridge, walked three tenths of a mile past Phantom Ranch, then turned right on the trail to Clear Creek. Beyond Clear Creek he had no trail. It was his plan to drop into Asbestos Canyon from the north side of the river, rather than ferry across the Colorado from the Hance Trail as the prospectors had done.

Gap in Canyon Wall

That night Dr. Butchart slept in an Indian ruin under an overhanging cliff. The second night, within sight of his goal, he had to seek shelter from a snow storm. The next day, Saturday, Dr. Butchart found a break in the canyon wall formation that was not shown on the government map he was carrying. He slipped through this gap, and cast about until he found a fragment of an old trail that led into Asbestos Canyon.

A quite sizable mining operation had once been carried on at that isolated site. There were three stone

dwelling ruins, about 10 by 14 feet in dimension, and various discarded utensils, including many galvanized buckets.

An interesting find was a comparatively new bedroll, and some camping gear which had been brought in no longer than a few months previously,

Dr. Butchart estimated. It is probable, he believes, this gear was left by a member of a river party.

The mining operation included about half a dozen shafts and two or three indications of surface diggings. At least three shafts had been driven high up the side of a cliff.

Near the mouth of Asbestos Canyon he found a waterfall higher than Mooney Falls in Havasu Canyon which is 196 feet high. "During the wet season," said Dr. Butchart, "the waterfall must be an impressive sight."

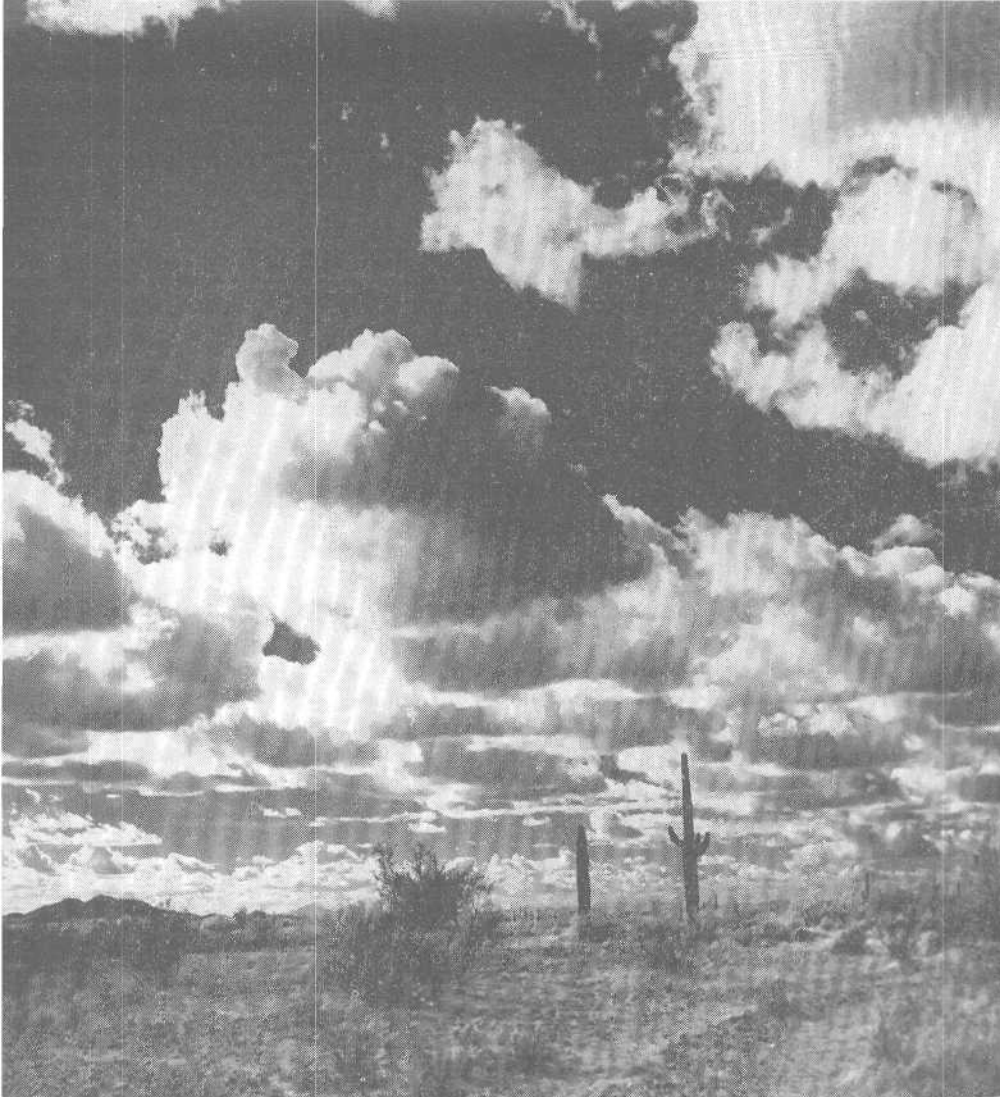
Ferry Crossing

Saturday he went down to the Colorado River by the miners' old trail to view the site of the ferry crossing used by the miners to transport their ore to the south side of the river. Saturday night he camped at Vishnu Creek, on his way out. It took all day Sunday to get from Vishnu Creek camp site to Phantom Ranch, where he stopped overnight at the campground. Getting an early start he topped out on the South Rim Monday at 10:30 a.m., and was back in his classroom on Tuesday morning.

Only a seasoned outdoorsman could have achieved what Dr. Butchart had done in a little over four days in the canyon. He had penetrated one of the most precipitous regions in the United States, much of the distance without trails. He had found what he sought, but more important he had found that now rather rare experience in modern life—true adventure.—END

Camp ruins in Asbestos Canyon.





TONIGHT'S DESERT

By AMY VIAU
Santa Ana, California

Tonight's desert is an enchanted land
As moonlight, like bleached silver laves its
sand,
Reaching the unfenced leagues once
drowned by sea
And there's a dark blue shadow beneath
white smoke tree.
Beyond a clump of cacti, stiffly-set
A mountain trims the night like a silhouette.

CALL OF THE DESERT

By PAULINE M. HENDERSON
Pasadena, California

Within me there's a yearning
For the desert's sand and sky,
The call is strong, insistent,
Too compelling to deny.
In dreams I hear the vagrant wind
That sings the siren's song,
And as I listen in the night,
I know where I belong.

Guide Posts

By TANYA SOUTH

You're dreaming of exalted height.
Your Path is clear, the Way alight
With every guide post. Take your pick,
And fear no hoax. There is no trick
Here to misguide. Each sign you find
Blazes the way in simplest speech:
"Love one another, and to each
"Be kind."

WHEN THE DESERT DROPS HER BARS

By MIRIAM R. ANDERSON
San Bernardino, California

The elusive haunting desert
Waits patiently to see
If the venturing intruder
Should share her mystery.

Isolation hides her beauty,
For the one she would enthrall
Must be hardy, must know silence
Is the greatest gift of all!

But then if we shall merit
Wind, gold sand and stars—
Enchantment will await us,
When the desert drops her bars.

MY DESERT

By HARRIETT FARNSWORTH
Burbank, California

Give me the desert with its double glow
Of sunset at eventide,
With snow-capped peaks hemming me in,
A world both friendly and wide.

When the sun slips over the Joshua tips
In a sea of rose and gold,
My thoughts waft back to other lands
With memories I cherish and hold.

But give me the desert's campfire nights,
Warm friendly stars overhead,
And the far-off wail of the coyote's call
Wooing sleep to my earthy bed.

Let me keep this desert's unchangeable
peace
Where solitude cradles the earth,
And forget other scenes in far-away lands
While unraveling its secrets find calm and
rebirth.

Sunsets

By DARRELL TOTTEN
Henderson, Nevada

There's a magic chest somewhere in the west
Out of which desert colors rise
To paint at day's close, in gold-burnished
rose,
Thrilling sunsets for care-worn eyes.
Each age tries to name this chest, but I claim
Names give nothing but shape or size.
So I just pretend this chest is my friend;
Providing whatever I need.
Each evening I may take from the sky
As much as I've earned by each deed.
Knowing this I grow, in the sunset's glow,
Somewhat free from envy and greed.

DESERT STORM AT NIGHT

By BETTY ISLER
Santa Ana, California

Across dark sands the evil-tempered storm
Beats angrily upon the thunder drum,
Whip-lashing at the spirits of the night,
While desert creatures huddle, stark and
numb,
Bright flaming spears of jagged lightning
prance
Along the mesa ridge in tribal dance.

A SPINNING WHEEL AND A CRADLE

By SYLVIA REEVES
Tucson, Arizona

A spinning wheel and a cradle
Were found on the desert sand.
Their sun-bleached wood telling mutely
The tale of a savage band.

The traveling padre was doubtful,
His sight being dimmed by glare,
And thought a mirage was the answer
To the pieces found lying there.

He gently placed them beside him
(His burro did not complain)
Then said a prayer for the owners
Who would never see them again.

By the mission wall they are lonely,
A relic of conquered land—
A spinning wheel and a cradle
Awaiting their master's hand.

DESERT DJINNEE

By GRACE PARSONS HARMON
Desert Hot Springs, California

The desert's a brat—
And an "angel chile," too—
It blows sand in your face,
Or brings beauty to you!

It cares not a jot
What thermometers say—
If you don't like the heat
You can just go away!

For it knows—well it knows—
Once your shoes have held sand
You may wander the earth,
But the desert's your land!

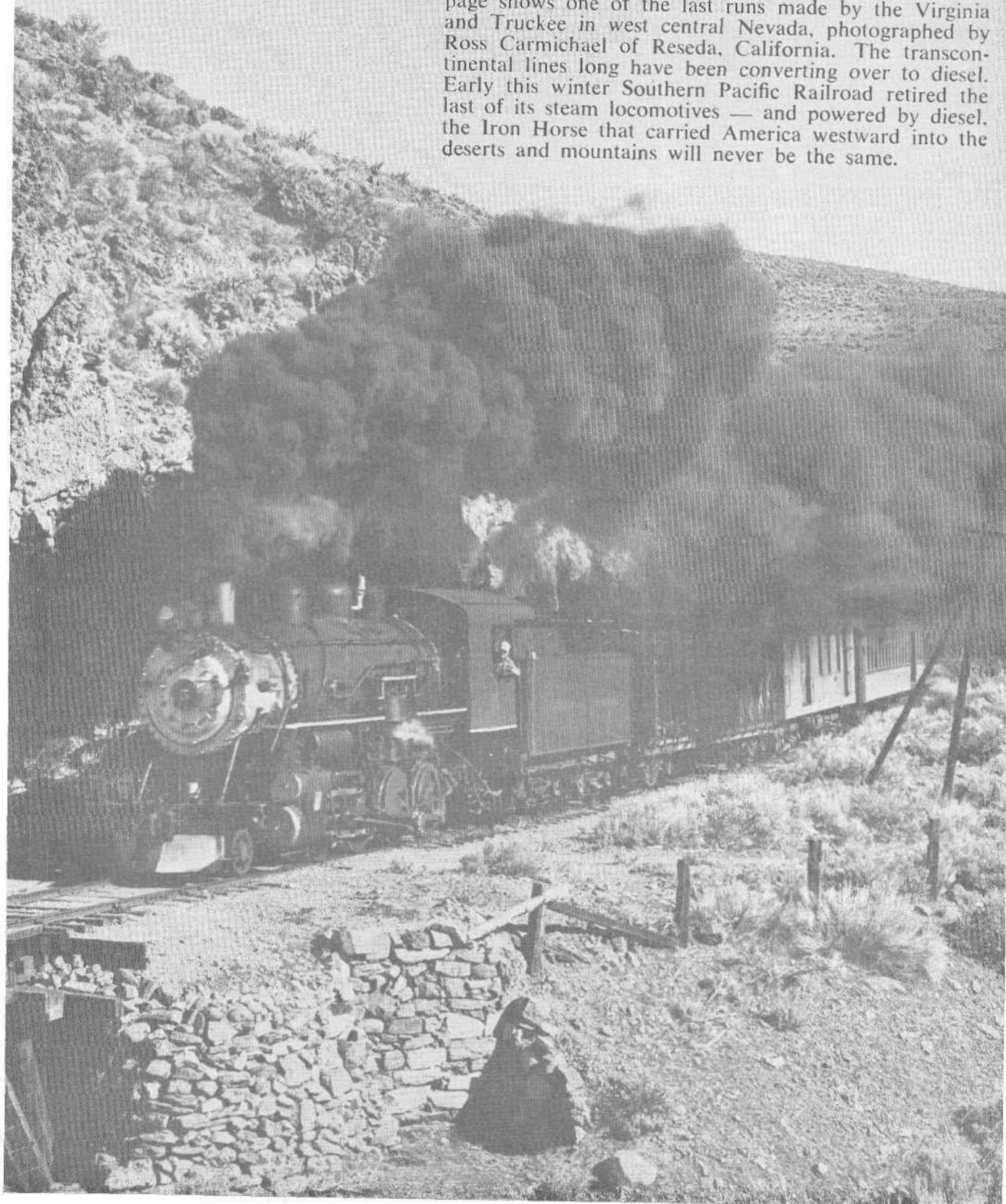
The scent of the greasewood,
The meadow lark's song—
They'll be calling you back
Though the journey be long!

It bewitches—enthralls—
You can never get free
Once the magic is felt!
Yes,
The Djinnee "jinned" me!

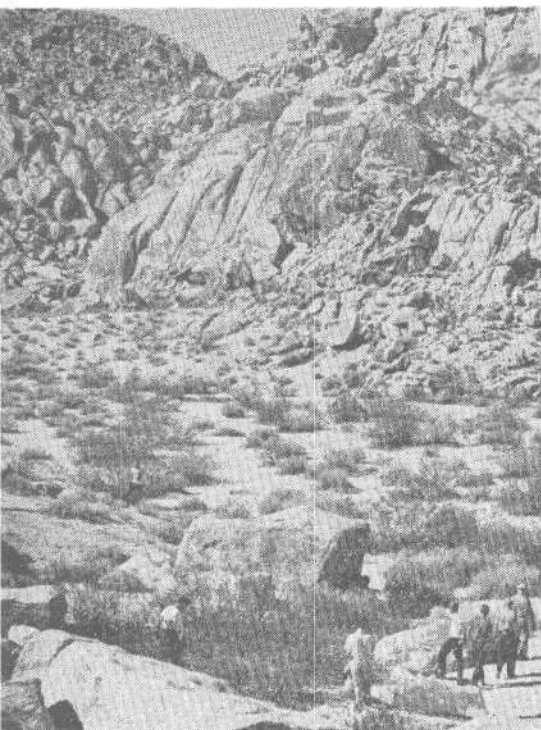
Photo of the Month

STEAM!

Fast disappearing from the Southwest scene is the sound and sight of the steam engine. Many of the short lines have gone out of business. The picture on this page shows one of the last runs made by the Virginia and Truckee in west central Nevada, photographed by Ross Carmichael of Reseda, California. The transcontinental lines long have been converting over to diesel. Early this winter Southern Pacific Railroad retired the last of its steam locomotives — and powered by diesel, the Iron Horse that carried America westward into the deserts and mountains will never be the same.



Outdoor Reunion for Jaeger's Alumni...



It was a common sight on the campus: the Natural Science teacher and a group of his students leaving for a week end camping trip. Far from the classroom and close to Nature, the lessons became deeply significant. Dr. Jaeger has retired from teaching, but once a year he and his former students meet around a campfire to reminisce.

By EDMUND C. JAEGER, D.Sc.
Curator of Plants
Riverside Municipal Museum

THROUGHOUT MY 33 years as a teacher of the natural sciences, I have always felt that the most important thing I could do for my students was to get them to supplement their indoor classroom and laboratory experiences with direct contact with Nature in the out-of-doors. I wanted them to go into the deserts and mountains where they could learn first hand the delights of primitive living and playing, while gleaning knowledge of the natural world.

And so it was common to see some of us every week end and holiday forsaking our town environments for the boundless desert, the forested mountains or the shores of the restless sea.

Summers usually found a group of four or five of us living like nomads for five or six weeks in the far-away and strange corners of our country, Canada and Mexico. On three occasions I took some of my students to see the charming countryside of England, Germany and other European nations. As the years went by I was able to share camping experiences with an estimated 1200 students.

In 1954, soon after my retirement from active classroom teaching, it occurred to me that it would be a most refreshing experience to call together as many as possible of these former campmates for a reunion. They had scattered to many parts of the world, and the addresses of only a comparative few were known. I sent invitations to 350, asking them to join me in October for a "Reacquaintance Palaver."

The lads who used to go out with me are now, for the most part, professional men — surgeons, dentists, teachers of the biological sciences, research zoologists and botanists, business executives, engineers and jurists — many of them outstanding leaders in their fields. One thing remained as it was: their great love for camp life. When we get together it is a real homecoming.

The place chosen for our camp-out was amidst a spectacular isolated group of large granitic rocks, piled upon one

another like giant blocks, on a broad Mojave Desert creosote bush plain. A wide apron-like bajada radiating outward for 600 feet provided a clean and inviting area for the many individual camps. To simplify matters, each carload of campers had been requested to take care of its own food and water. In order not to disturb the natural charm of the area by despoiling it of its deadwood, the men also were asked to bring from home the wood they needed for cooking, and an extra stick or two for the general evening campfire.

The Palaver participants began coming in at mid-afternoon on Saturday, and soon 60 persons were exchanging greetings and making new acquaintances—their common bond being a love of the desert out-of-doors. By dusk 25 small campfires were glowing in the gathering darkness, and tasty suppers were being prepared.

At seven o'clock wood was brought in for the common campfire. Soon thereafter Master of Ceremonies John G. Gabbert, Judge of the Superior Court of Riverside, California, directed a roll-call, asking the ex-students to recite memorable experiences of yesterdays which occurred on desert trips with me.

The moon was full, and after the campfire we sauntered forth for a three-mile walk under a cloudless star-studded sky. The experience was hugely enjoyed, and it left inerasable memories of the desert's nighttime charm.

Next morning after breakfast, the group assembled for a field trip. I directed them on a round of observations of the plant and animal life as well as pointing out the unusual physical features of our rocky terrain. On this three-hour four-mile walk there was never a dull moment, for someone was always turning up something of interest, or directing to me questions of import.

Lunchtime came and shortly afterwards the early afternoon exodus for home. Some had yet that day to go

ON DESERT TRAILS WITH A NATURALIST

to places as remote as Berkeley and Fresno.

It is gratifying to report that except for many footprints left in the sand, scarcely any evidence of the presence of the big group remained. It demonstrates how easily possible it is to fully utilize our wilderness areas for recreational and educational purposes, and leave them intact and unspoiled for others to enjoy in this and succeeding generations. When some of us visited the area in December, wind and rain had even erased the footprints.

The great success of this first Palaver, or as some dubbed it, "Jae-



Edmund C. Jaeger

ger's Camp Meeting," suggested that it be made an annual affair.

The second meeting was held in another scenic area of granitic rocks 20 miles north of the site of the first gathering. It was a rough mountainous environment we named the "Jelly-roll Country" because of the peculiar markings of the numerous rocks. Here concentric lamina of tan-colored granite are interlaid with thinner red layers, so that each rock resembles a giant baker's jelly-roll cake. There are few places in the world (one notable one being in the Himalayas) where similar formations are found. The Mojave occurrence is several square miles in extent, an intriguing place for the photographer as well as the geologist.

It was during this Palaver that we explored the giant finger-like Hercules Needle, a stone monolith marking the site of the great battle with the *Chuganosos*, who were driving 4500 mules and horses they had stolen from the Spanish ranchos and the San Gabriel Mission to the Santa Fe horse markets.

The third Palaver convened at the site of the first one. The 1958 get-together was held in late September in the juniper-agave area of the Santa Rosa Mountains east of Pinyon Flats with the largest representation of all, 75 persons.

There were with us this time eight youngsters ranging from seven to 12 years of age, and five young men of high school age—all sons of my former campmates. They were exceedingly well behaved and interested in the out-of-doors, and it pleases me highly that their fathers are bringing them up in the old tradition of camping simply, and everywhere conserving the natural scene. Among these fathers there is not one who is not an active conservationist.

The most applauded speaker at the campfire session was a boy of 12 from Covina who recited in faultless English and with all the calmness, assurance and aptitude of a trained public speaker, his almost fatal bout with a small but highly poisonous turkey fish which, in innocence, he picked up from a tide pool on the shores of the Gulf of California. He was made so ill that for some days his parents despaired of his life.

On the field trip next morning a walk of several miles took us over rough terrain where we were rewarded with the sight of several desert bighorn. The finding of rare desert land snails, several unusual plants and birds added much to the pleasure of our journey.

Already we are looking forward to next year's Palaver. This yearly meeting of men of kindred souls is now a well established annual affair of unquestioned value, an autumn week end of wholesome education combined with meaningful recreation. Its impact on the lives of all of us, and especially the young participants, is most important.—END

PHOTO CONTEST

You are invited to enter desert-subject photographs (black and white, 5x7 or larger) in Desert's monthly photo contest.

One entry will be selected each month, and a \$10 cash prize awarded to the photographer. All other entries will be returned—provided postage is enclosed.

For non-winning pictures accepted for publication, \$3 each will be paid. The contest is open to all, and time and place of photograph are immaterial—except that the photo must be of a Desert Southwest subject.

Address all entries to:

**PHOTO CONTEST
DESERT MAGAZINE
PALM DESERT, CALIFORNIA**

Pueblo Portrait



Pottery Girl of Laguna Pueblo, New Mexico. Her richly patterned rose and emerald shawl is an heirloom.

By JOHN L. BLACKFORD

The Man Who Taught Us Contentment

He was peculiar by most people's standards. A desert hermit who retreated into the wilderness to find, through a simple existence, the inner peace and contentment that gave richness to his life.

By DOROTHY ROBERTSON

LIKE MANY city dwellers, we had an awakening need for a small piece of unspoiled land where the vista was still as Nature had made it. After months of scanning newspaper advertisements for a desert place, we purchased some inexpensive railroad property—a section of land on California's Mojave Desert containing within its boundaries a small portion of a San Bernardino Mountain spur.

While checking our boundaries, we only found three of the corner markers. The missing monument was in a rocky canyon timbered with scattered junipers, pinyons and small scrub, according to our map. The floor of this gorge was a thick tangle of wild grapevines sprawling over great white boulders. Someone had gone to a great deal of work enlarging a natural path along the west face of the canyon.

"Probably someone's favorite campsite around the bend," commented my husband. Although we were tired and hot, we hiked to the end of the road.

To our astonishment, built into the hillside at the end of the box canyon and partly concealed by an unexpected grove of live oaks was a small rock cabin almost completely hidden from view. "We must be in the wrong canyon," my husband commented. "The map shows no buildings."

A Rustic Setting

He knocked at the door, and when no one appeared, we walked over to the small wire-enclosed vegetable garden which also included a few fruit trees. There was something appealing about this place: nothing fancy, just small and cozy and very rustic. North of the cabin was a large circular reservoir 16 feet across. It was full of clear sparkling water. We sighed enviously as we departed.

Later when we returned to the land office for more information the clerk insisted that there was "no building, no reservoir, no nothing on that sec-

tion. You must have surveyed beyond the boundary marker."

We decided the missing stake would turn up in time, so we went ahead with other plans. In due course we became the happy part-time dwellers on our own square-mile of sun-splashed desert-mountain land. We had found the end of our rainbow.

Some months later, a second survey again brought us to the little rock house in the box canyon. This time a tall spare man was working in the garden. He shaded his eyes upon hearing our approach, then came forward smiling, with outstretched hand. "Welcome, welcome friends!" he said in an accented speech that was courtly and Old World. "Will you rest here awhile?"

Neither young nor old looking, his sandy-gray hair, confined by a blue band, waved to his shoulders. Keen blue eyes looked out from a calm sand-brown face. His whole aspect was that of a person who had found peace within himself.

His clothes were definitely individualistic—a long jacket and khaki pants cut short at the knee; plain leather sandals encasing his feet. Except for being beardless, he reminded me of a prophet of old.

Reason for the Visit

We gratefully accepted the proffered drink of cold spring water, and then we introduced ourselves, and the reason for our presence.

"Oh, ya? Perhaps I can help you, friends," he said, then added as an afterthought: "Yust call me Louie—my Scandinavian name is too hard to pronounce!"

He had lived in this canyon for many years, he told us. Often he was gone for weeks at a time—just wandering, for the desert sky was the finest roof ever given to man. "Have you listened to the silence of the desert? Ya, it is wonderful for meditation and the spirit."

Louie had not known this land had been up for sale. "Such things have never occurred to me!" he remarked with a surprised and naive perplexity. Then he recalled seeing a very old corner stake, set in the 1880s. "Perhaps you will look at it, ya?"

Without hesitation, the strange man led Allan away, while I sat by the reservoir, listening to the gurgling splash of water falling into the cistern which blended so musically with the sleepy fluttering of the breeze-stirred oak leaves, and the murmurous singing of the pine needles.

The cabin mirrored its owner — rough and picturesque, yet enduring as a gnarled old oak. In a clearing next to the outdoor kitchen, he had constructed rough trestle tables and benches. Numerous rock and mineral samples jostled stacks of Rosicrucian booklets, along with the accumulation of years of outdoor living. Judging by Louie's peaceful expression, he had found his niche in life, however humble.

The Missing Marker

When the men returned, my husband's distressed expression confirmed my unwilling suspicion. He said: "Louie thinks this place is on our property."

I hoped aloud that there was some mistake.

My husband shook his head. "The corner stake is marked the same way as the other three!" I searched in my mind for something reassuring to say, but Allan rallied: "We really had no idea—but then, a square mile is a lot of territory to us. It need make no difference to you, sir!"

I was proud of my husband, but we did not take Louie's iron ethics into account.

"Do not distress yourselves, friends. It is not your fault. The simple fact is that this property belongs to you, ya? Therefore, I am at fault — I shall move myself away!"

To our pleas, he turned a deaf ear. "You do not understand, my brother. There are forces that rule life—I must go. Please, do not let your hearts be sore. I am a wanderer by nature. Material things mean nothing to me! Often the sky is my roof!" He smiled, flinging wide his arms to embrace the land he loved. "See? It matters not where I go, for there then, is my home!"

It was useless. "At least put a price on your relinquishment," said my husband. "You have done all the work that I would have had to do—built a fine reservoir, piped the water . . ."

"I will think about it. Ya, next week should you come I wait for you. I tell you then. Goodbye!" The stubborn man smiled pleasantly, and subdued and saddened we accepted defeat, and departed.

Next visit we found Louie sitting upon a large boulder, chin on hand, contemplating with engrossed interest the busy morning life of a large colony of big black shiny ants. "Life is truly a marvelous thing if you but take the time to observe the Little

People," he said enthusiastically. "Ah, such perfection!"

Then, somewhat sheepishly, he explained that he had decided to heed our offer. "It must be I am getting old now, ya?" he said, laughing at himself. "I think one hund'ed dollar—it is not too much?" he added anxiously. "This I will need to pay for some land I have found nearby, and to buy a few building materials. For

become brown and healthy. There is nothing like Nature and the desert sun to make a body hardy!"

Louie could not grasp the need for rush and hurry. "Why is it so necessary? Surely it is not a matter of life and death? I think, brother, that when the end of the road comes, then they realize too late that they have thrown away something very precious! Ya, I think it is better to take time to ob-

on this beautiful earth; to help God's creatures, man or beast; ah, that is a privilege! Truly, we are here for such a little while."

Over a decade has passed since last we heard those words of wisdom from the old recluse. More and more we have come to realize how right Louie was! Yes, we are here for such a little while. When we are gone, eternity is forever. It is folly to rush through life unheeding. Allan and I live each of our precious days thankful that an unassuming man of the desert hills took the time to open our eyes to a simple yet fundamental truth.—END



lumber I have found some railroad ties that will be excellent—for free!"

My husband grinned as he wrote out a check—but we were in for another surprise. "Ah, no," cried Louie, "five hund'ed dollar is too much, brother! After all, this land is your own! Ya, it is much too much." But Allan was adamant.

As tactfully as possible we invited Louie to continue using the garden and the water. To our arguments, the frustrating man merely smiled. "Thank you, friends," he said. "Perhaps I use a little of the garden and the water until I find another way."

In the months that followed we returned often to our desert homestead. I always brought something for Louie—a jar or two of fruit or perhaps some preserves. He would come striding up the canyon, stout staff in hand, to wish us a good day and happiness.

Although Louie was reluctant to talk about himself, he remarked once that he had been a seaman out of Norway. He was one man who lived his religion, and his concept of life was most intriguing. Once he remarked that life on the desert was the finest and most rewarding there was; especially when measured against one's peace of mind and health. "So many come to the desert in search of health—ah, the desert way is good, for these poor people gain new life! Ya, they

serve and ponder the meaning of life. It is a pity people do not realize the need for a quiet place to find spiritual understanding."

Louie showed us the small water trough he had constructed for the desert creatures. "Perhaps sometime while you are up here you will see the wild horses. Graceful creatures—so wild and free!" He rose up in wrath, denouncing the men who came to capture or shoot them. "There are some who kill for no other reason than that they have a gun in their hands! That brother, I cannot understand! It must be that they have a terrible sickness in the head and the heart! Surely all creatures have a right to life, for God created all."

I remember Louie's dancing eyes and his tender voice when he spoke of the long-eared jackrabbits which shared his vegetable garden, or the pack rat that persistently borrowed his belongings. "Always this fine fellow of a pack rat leaves something for me in return. Such crazy things! Bits of sticks and stones and rubbish. Ya, that silly fellow does not know that I cannot use what he gives me!"

Louie often spoke of the simple things in life as being the only worthwhile things one remembered in later years. "Peace and contentment go hand in hand, my brother. That is the key to happiness. To enjoy each day

ARMED SERVICES TO SHARE ARIZONA GUNNERY RANGE

Luke AFB, Ariz.—The Navy and Marine Corps will share use of the huge 7830-square-mile southern Arizona Gila Bend bombing and gunnery range with the Air Force. The agreement becomes effective in April when the Marine Corps Auxiliary Air Station at Mojave, Calif., is transferred to Vincent AFB at Yuma.

Opening of the area to Naval use not only will save the taxpayers money, the Navy will utilize an existing closed-to-the-public area rather than take over additional desert land for its testing program.

The artificial dividing line which previously separated the Gila Bend gunnery area into two halves, one used by Luke and Williams AFB and the other by Vincent AFB, was eliminated by the agreement. Henceforth, the entire area will be used by the participating services under the control of a Joint Control Agency with headquarters at Luke.

In addition to the above mentioned bases, the area also will be open for use by other Naval, Air Force and National Guard units.

ANSWERS TO DESERT QUIZ

Questions are on page 18

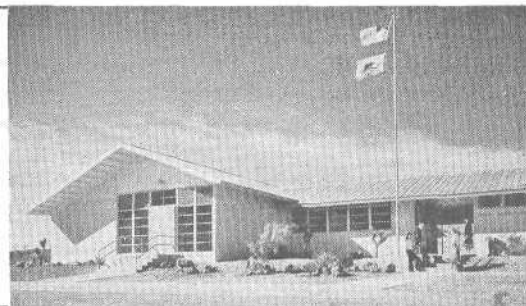
- 1—Grinding seeds and grain.
- 2—Dwelling house.
- 3—Blue-gray.
- 4—Death Valley region.
- 5—Gila River.
- 6—Arizona and Nevada.
- 7—Sheriff Pat Garrett.
- 8—Lizard.
- 9—White Mountains of Arizona.
- 10—Corn.
- 11—First explored the lower Colorado by boat.
- 12—California.
- 13—Yuma.
- 14—Gain freedom to worship as they pleased.
- 15—Malachite.
- 16—National Park Service.
- 17—Colorado River.
- 18—New Mexico.
- 19—Trader in Monument Valley.
- 20—Flagstaff.

DEATH VALLEY HIGH SCHOOL

Big City Education For 15 Students

By EUGENE L. CONROTTO

The classrooms do triple duty at Death Valley's new high school—its 15 students have facilities for a full secondary school program.



LOUIS SHOSHONE, teenage grandson of the late patriarch of the Death Valley Indians, Johnny Shoshone, picked up a power sander from the orderly and well-stocked cabinet, and resumed work on his woodshop project. Louis is student body president of Death Valley Union High School—a plant as modern and functional as the area it serves is wild, desolate and isolated. He is one of 15 students enjoying the facilities of this unique building, and I had interrupted his work to get his reaction to the new school.

Louis' reply was an ear-to-ear grin—a sentiment shared by fellow students, faculty and the townspeople of the oasis community of Shoshone, California, the school's locale.

I was in Shoshone to learn how Atomic Age education was being carried out in one of the world's most sparsely populated areas. The DV school district embraces 2300 square miles (Delaware's land area is 2057 square miles) including the greater

part of the Death Valley National Monument. The land is scorched by sun in summer and chilled in winter by sand-laden winds sweeping down to the desert floor from 10,000 foot peaks. Temperatures range from 130 degrees to 15 degrees.

Shoshone, population 185, is the hub of this desert area. It is the focal point of the economy, providing mining supplies, food, products and entertainment for a population consisting of mine workers, truckers, highway maintenance men, pensioners, prospectors and a few merchants. Although Shoshone includes a general store, cafe, motel, bar, modern residences and Saturday night movies, a portion of the community lives in comfortable well-furnished cave dwellings dug into the bluff southwest of town.

Class in home economics. When this instruction period is over, the alcove's sliding panel door is lowered, and a new subject is taught in another portion of the classroom.

Since over half—13,140—of the nation's high schools have enrollments of less than 200, Death Valley's unusual solution to rural America's high school problem has far-reaching implications.

Architect Robert Trask Cox of Los Angeles found the answer to the task of creating a small school with big school efficiency and versatility by designing each classroom for triple duty.

Each of Death Valley Hi's classrooms is six-sided with alcoves on every other side. These three corner alcoves are separated from the main body of the room by sliding panels covered with chalkboard and tackboard. The panels lift into the ceiling like garage doors.

When one of these alcoves is opened, the room is converted to a miniature theater with the open alcove serving as a stage where attention is focused for science instruction or laboratory activity. A second alcove may have a cooking range and the equipment for the domestic science class,



and a third may be equipped with maps, charts and globes for history or mathematics. The students' chairs are all movable and it is a simple matter for the pupils to turn their chairs to face the alcove while the teacher slides the alcove panel and sets the stage for the instruction period.

This newly designed and efficient arrangement makes it possible to teach a score of subjects in three classrooms with nine alcoves.

Prior to the construction of this comparatively small school with all the equipment and facilities available in much larger high schools, the Shoshone students received their education in a rented two-bedroom home.

To provide a measure of protection against the 80 and 90 mile sandstorms which occasionally blast the Shoshone community, the school plant is built around a sheltered patio in the form of a reversed letter J. The roof is of gleaming weather-resistant aluminum with a wide overhang.

Special Glass

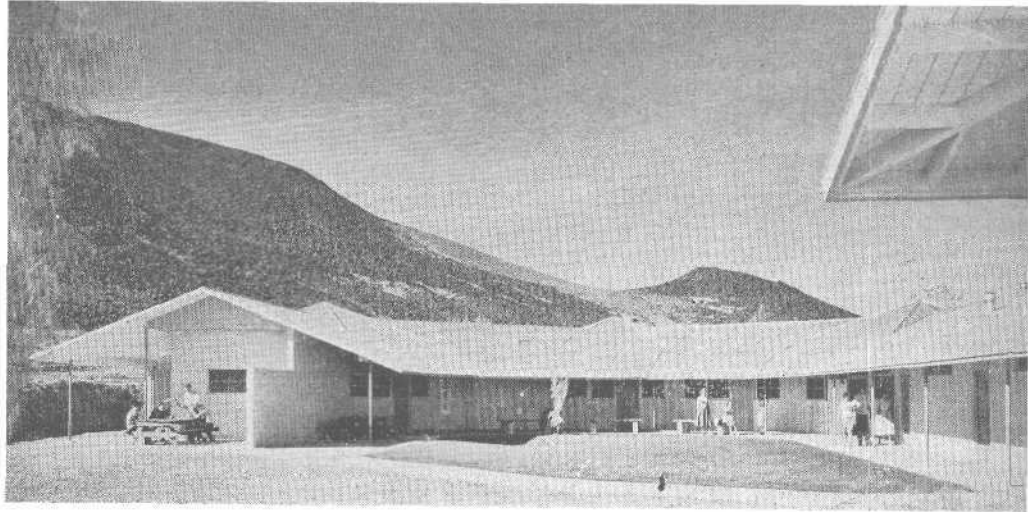
To shut out the glare of a dazzling desert sun, the generous window space in all classrooms is equipped with a special low transmission glass known as "Lo-Tran" in the trade. This glass is quite transparent from the inside looking out to the rugged mountains which partly enclose the community, but looking into the rooms from the outside the glass appears to be so darkly tinted as to be almost opaque. This glass is the same kind used in dark glasses.

The classrooms adjoin one another around the base of the reversed J. The stem of the J holds girls' and boys' rest rooms, showers and dressing facilities; a playground supply room; administrative offices; and a nurse's examination room. The cross-bar at the top of the J is a multi-use and community room, and a bad-weather gym.

Total construction cost of this school was \$207,000. The land was donated by State Senator Charles Brown, veteran Shoshone businessman.

Claude D. Ellison, superintendent of the unified school district, escorted me through the plant one day this winter. My host, a slow-speaking transplanted Texan, is beginning his first year at Death Valley. He served in the Navy from 1942 to 1946 and in 1952 was recalled for six additional years of duty.

"The things I wanted out of life began crystallizing in my mind during this second hitch, for it seems that most of my time was spent on commuter buses, trains and ferries between



Sheltered patio and wide overhangs provide protection against wind and sun.

my New Jersey home and my Manhattan office," he said.

"I vowed I'd never again buck a commuter schedule. Reeta and I wanted a school job in a small town—a quiet place. We didn't figure on finding one so small or so quiet, but we're highly pleased."

The Ellisons and their two young daughters live three minutes away from the school. There were more people in their New Jersey apartment building than there are in Shoshone.

In addition to the high school, Ellison's district has one-room one-teacher

grammar schools at Shoshone; Tecopa, a dozen miles to the south; and at Furnace Creek in the great trough of Death Valley itself, a 130-mile round-trip from Shoshone. Two buses link the attendance centers at Tecopa and Furnace Creek to the high school. "It's a long ride," Louis Shoshone told me, "but some of the Furnace Creek kids use this time to study, and others to sleep." Both of these activities, Claude said, are important for children.

Paul E. Fox, a young man who has been on the DVHS faculty for the past six years, believes the only way accurately to predict school enrollment in the district from year to year is to study the price of lead. The Noon Day Mine at Tecopa, the biggest lead producer in the district, is a marginal operation. Therefore, when the price of lead is up and the Noon Day goes into production, workers and their families move in. When the price of lead is low, as it is at present, the mine is closed. This explains why DVHS, built for an expected enrollment of 30, opened its doors in September to only nine pupils. A few months later the student body leveled off at 15.

"If the choice for filling a teacher vacancy narrows down to two candidates of equal professional ability, the job would go to the one with the most school-age children," said Claude. "A teacher with six kids, for instance, would revolutionize the whole school set-up."

"Private Tutor"

Paul Fox was proud of his classroom. Four students were seated at desks with heads bent over their books.

"This is my geometry class," he explained. "You can see we have what amounts to a private tutoring system here. Consider the number of students jammed into the average math class in a big city school!"

By sliding one of the blackboard-covered panels into the ceiling, Paul exposed the chemistry lab alcove. It

Louis Shoshone is president of the school student body.



was well equipped, with space enough for four students to carry on experiments at the same time.

"Chemicals have a tendency to smell," he said. "So when we're through with chemistry, we close off the smell—and sight—of this lab."

A second alcove holds the shop, the third a sewing room. In addition to geometry, Paul teaches algebra, general science, woodwork, math and physics.

Paul's wife, Gladys, teaches home economics, Spanish, biology, world history and typing. Most of her work is done in the middle classroom whose alcoves include a complete kitchen with sink, range and refrigerator for the home economics girls; and a general science corner. When we walked into Mrs. Fox' room, her four history students were seated in this latter alcove behind the half-drawn partition watching a movie of Shakespeare's *Julius Caesar*. The third alcove is a connecting wing between Mrs. Fox' room and Mrs. Loy Tullis' room. This wing is the school's study hall and well-stocked library.

The Third Room

Mrs. Tullis teaches English, speech, American history, senior problems and girls' physical education. Her two other alcoves contain an art room and a social studies corner filled with maps, globes and displays. With all three alcove partitions closed, and the typewriters swung out from under the tables lining two of the walls, this room becomes a business education center.

Death Valley Hi is an ideal school for college preparatory students. Arts, crafts, music and athletics must be limited, but this does not seem to work a hardship on the pupils. The nearest high school is at Beatty, Nevada, 85 miles away, which explains why last year's athletic program consisted of four basketball games. But, the entire student body can be seated in the first four rows of a school bus, and Claude plans to take the pupils on educational field trips, including a few geology outings in this area so richly endowed with natural phenomena.

Death Valley school district may only have one high school pupil to every 153-square-miles of its lonely territory, but these students attend a first rate institution. Their teachers are competent and dedicated, their plant a marvel of architectural ingenuity.

These kids are not missing anything of significance that the outside world's larger and more crowded schools might possibly be able to provide.—END

LETTERS

Two Wheeler Peaks . . .

Desert:

There are two correct answers to question 15 in the November quiz ("If you wanted to climb Wheeler Peak you would go to—"). In addition to 13,047-foot Wheeler Peak in Nevada's Snake Range, there is 13,151-foot Wheeler Peak in Taos County, New Mexico—highest point in the state.

I have ridden to the summit of New Mexico's Wheeler on horseback, and climbed it on foot several times. The summit is 13.5 air miles from Taos (my birthplace), but is not visible until one is about three miles south of Taos because the mountain is obscured by Pueblo Peak (12,282 feet) 7.5 miles northeast of Taos.

From Wheeler's summit far above timber line, one has a view of some of the most beautiful country in the Southwest. To the east in the dim distance lie the great plains, but to the north, west and south, range after range of blue mountains stretch to the horizon.

There are nearly a dozen lakes of various sizes which form a circle of gems around the base of the peak—Blue Lake, famous for secret rites of the Taos Pueblo Indians, Water-bird Lake, Horseshoe Lake, Lost Lake, Williams' Lake and several smaller nameless ones.

These lakes are fed by springs and melting snows on Wheeler, and form the headwaters of streams which flow through aspen and evergreen forests into the Rio Grande and Canadian Rivers.

If ever you want to see a corner of God's Country, visit the Wheeler Peak area in Carson National Forest.

RALPH J. PHILLIPS
San Diego, Calif.

New Mexico's Honor . . .

Desert:

I am sure that I will not be the first or only reader to write you regarding Question 15 in the November quiz, but I could not resist the opportunity to come to New Mexico's honor. We also have a Wheeler Peak in this state.

Formerly the Trunchas Peaks were considered the highest in the state, but some years ago the error was discovered, and Wheeler was declared the highest. Most road maps now indicate this fact.

HELEN ANDERSON
Albuquerque

Setting the Record Straight . . .

Desert:

The November "Historic Panoramas" story on Jerome has put considerable life into the "ghosts" who live here—all because of the appalling amount of misinformation it contains.

To put the record straight, Jerome's official altitude is 5245 feet, not 5435. It is not on Arizona State Highway 79, but on U.S. Highway 89A. The earth slide was due to a shift of the geologic formation, the Verde fault, not to an explosion of 250 pounds (actually 250,000 pounds) of dynamite. The chief mining area was never known as the "Black Pit"—it was the "Glory Hole" until 1921 when it became the "Open Pit" or the "Big Hole." "More museums than stores?" By accurate census there are in Jerome: restaurants, three; bars, two; stores, nine; museums, one!

G. E. McMILLAN
HARRY F. MADER
CAROLINE MARSHALL
C. J. BEALE
SHAN S. HOLT
WINIFRED S. FOSTER
Jerome, Arizona

Birds: Man's Ally . . .

Desert:

It does me good to see the editor say something against the destruction of birds (November editorial), especially the lovely wild doves.

Most people have the short-sighted attitude that birds should only eat insects—not deserving a few mouthfuls of grain or fruit as reward for consuming many of the plant-destroying insects.

Birds are so small that the branches of one tree will accommodate hundreds of them—and there are never enough birds to cope with the insects which multiply so fast that in a short time there are swarms of them ready to devour all plants in sight. Only then will the men who shoot birds realize the value of our feathered allies.

MINA I. LEWIS
Haverhill, Mass.

Rattlesnake Den . . .

Desert:

I built a two-room longhouse at my placer claims in Mint Canyon near Acton, California. One end of the building is two-feet off the ground, anchored on boulders. One night I kept hearing a lot of soft noises from under the floor at the off-the-ground end of the building, and upon investigating, found a den of rattlesnakes. I killed 50 with my rifle, and I think that many more got away.

C. A. CRUZAN
Carlsbad, California

BOOKS of the SOUTHWEST

Books reviewed on this page are selected as being worthy of your consideration. They can be purchased by mail from Desert Magazine Book Shop, Palm Desert, California. Please add four percent sales tax on orders to be sent to California. Write for complete catalog of Southwestern books.

GRAND CANYON THROUGH THE EYES OF A NATURALIST

Grand Canyon of the Colorado River in northern Arizona is many things to many people. To the layman the 1008 square mile Grand Canyon National Park is a delightful place for rest and recreation. To the artist and photographer its fantastic geography and clear air are a great natural outdoor studio with an ever-changing panorama of color and shadow.

But Grand Canyon's most impelling interest perhaps is for the naturalist who reads a billion years of geological history in the exposure of rock in the walls of the great chasm, and who finds in the plant and wildlife of the area a fascinating revelation of the manner in which undisturbed Nature maintains ecological balance.

The natural charm of the region has never been more clearly revealed for the layman than has been done by Joseph Wood Krutch in his latest book, *Grand Canyon Today and all Its Yesterdays*.

Krutch takes his readers down the billion-year geological journey to the bottom of the canyon, and through the Subtropical-to-Arctic life zones of the plant and animal world. The coming of civilized man has had a tragic impact on some aspects of wildlife in the

area, but because of the immensity of the Park and the inaccessibility of much of it, the damage may not be entirely irreparable.

His chapter on *The Balance of Nature* will be especially interesting to those who would understand better the evil effects of ill-advised game laws, of over-grazing and ruthless destruction of watershed cover. The meaning and importance of wise conservation are emphasized.

The author is more than a naturalist—he is a philosopher who goes beyond the superficial observation of the land and its physical resources to a discussion of ultimate values—of the profits for a few versus the enjoyment and spiritual values which may accrue to great numbers through the preservation of park and wilderness areas.

Those who have read Krutch's *The Desert Year*, *The Voice of the Desert*, and *The Great Chain of Life*, will find in *Grand Canyon* the same beautiful prose and thoughtful approach to questions of living interest.

Published by William Sloane Associates, New York. 276 pp. \$5.

DESERT NATURE SCENE FOR YOUNG READERS

A little book for the little naturalists, *Wild Folk in the Desert* tells in very basic sentences of a few plants and many animals that live in the arid stretches of southwestern United States. The book would be an ideal present for a fourth-grade youngster who wants to learn some of the fundamental facts of desert animal life.

Written in medium-large type, using small-fry words, the book is well illustrated, depicting 90 plants or animals. Authors are Carroll Lane Fenton, science educator, and Evelyn Carswell, a Tucson grade school science teacher.

Wild Folk jumps hither and yon in covering its desertland assignment, but this sort of patchwork reporting probably matches the active wanderings of the age level that will get the most out of the book. As a matter of fact, parents who read this book to young non-readers will probably learn some interesting, if fragmentary, information about our desert dwellers.

Published by the John Day Co., New York; illustrated with line drawings; 128 pages; \$3.50.

AUTHORITATIVE WORK FOR NEW HOBBYISTS REPRINTED

Getting Acquainted With Minerals, a pioneer gem and mineral book written for the amateur and published in 1934, has been reprinted in an expanded and rearranged edition. New chapters have been added on radioactivity, gem cutting and specimen preparation, and most of the original illustrations replaced with new ones.

The early work was written by the late George Letchworth English, noted mineralogist connected with the Ward's Natural Science establishment. Co-author of the revised volume is David E. Jensen, head of Ward's geological division.

This is a very complete and well-written book which should satisfy the requirements of the average hobbyist who is seeking to acquire a solid foundation in the study of mineralogy. More than 500 minerals are described. Of particular note are the quality line drawings and half-tones used to illustrate this book.

Published by McGraw Hill Book Company, New York; illustrated; index; mineral identification table; 363 pages; \$6.95.

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SOUTHWEST NEWS BRIEFS

Kitt Peak Highway . . .

Tucson—Ground survey parties are mapping the best access route for the 13-mile highway which will lead to the observatory site atop rugged Kitt Peak in the Papago Indian Reservation. The National Science Foundation will pay the tribesmen \$25,000 a year for use of the 2400-acre site, sacred home of the Papagos' gods.

Signboard Blight . . .

Palm Springs, Calif. — There are 1400 signboards along the 25-mile resort route from Palm Springs to Indio, but the builders of only 72 of these signs bothered to take out required building permits. Furthermore, estimates the County Planning Commission, 54 percent of the signs may be in violation of zoning laws because they are not set back far enough from the highway. The Commission ordered a probe designed to correct the violations.



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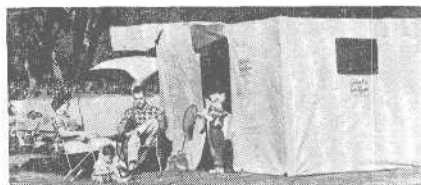
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In Los Angeles, phone MADison 7-8048
In San Francisco, EXbrook 7-2717

Reservoir Land . . .

Flagstaff — Land for the proposed Marble Canyon Dam and reservoir is being withdrawn from public entry by the Bureau of Reclamation. Control of the damsite, 45 miles downstream from Glen Canyon Dam, is being sought by Arizona for purposes of constructing a 510,000 kilowatt capacity power dam. Arizona also wants Federal Power Commission permission to build a 440,000 kilowatt capacity dam in Bridge Canyon. The Bureau of Reclamation said its move to withdraw the land was not intended as opposition to Arizona's request, although other Federal agencies are considering building the Marble Canyon power dam. California has filed a formal protest against construction of the dam by Arizona.

Discrimination Charged . . .

Carson City, Nev.—The granting of a license to a saloon operator to set up a Carson City bar for the exclusive use of Indians was met with a charge of discrimination by a representative of the Pyramid Lake Tribal Council, the *Carson Nevada Appeal* reported. Council Secretary Dora John said she felt that bars in Carson City indicating they did not want Indian trade during the recent Nevada Day Celebration, and the granting of the special Indian bar license were discriminatory acts.



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Fort Union Dedication . . .

Las Vegas, N.M.—Formal dedication of Fort Union as a national monument is scheduled for mid-June. Under construction at the sprawling military post a few miles north of Las Vegas is a Visitors' Center and Museum. Established at the junction of the northern and southern branches of the Santa Fe Trail, Fort Union was one of the most important military outposts in the West from 1851 to 1891.

Cave Sought for Park . . .

Tucson—The Arizona State Parks Board is considering plans to include Colossal Cave in the state parks system. The cave, located in the Rincon Mountains east of Tucson, is of scenic and scientific interest, a Board spokesman said. The cave is on state land under lease to Pima County, which has subleased it to a private operator.

Sandstorm Damage Lessening . . .

Thousand Palms, Calif.—The State Highway Department reported a reduction in windborne sand damage along the Highway 60-70-99 expressway between Garnet and Thousand Palms. Main reason for this improvement was the stabilization of the construction scars on the hillsides north of the highway. The State is maintaining a 24-hour patrol along the 10-mile section, and when damaging windstorms arise, highway signs indicating alternate routes through the area are uncovered.

Giant Cables Span Glen . . .

Page, Ariz.—A mile of four-inch cable, largest of its kind ever manufactured commercially in the U.S., now spans the Colorado River at the Glen Canyon damsite. The two single track cableways will be capable of delivering 50-ton payloads of concrete every four minutes in the construction of the 700-foot high dam. The cable was fabricated in Trenton, New Jersey.

First Indian Dentist . . .

Taos, N.M. — Dr. George Blue Spruce, Jr., a Pueblo Indian and the only Indian dentist in the commissioned corps of the U.S. Public Health Service, recently took up duties at the Taos Pueblo Health Center. Dr. Spruce will serve Picuris, San Juan, San Ildefonso and Santa Clara pueblos.

KENT FROST JEEP TRIPS

Into the Famous Utah Needles Area
Junction of the Green and Colorado rivers;
Indian and Salt creeks; Davis, Lavender,
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weep and Bridges national monuments.
3-day or longer trips for 2-6 person parties
—\$25 daily per person. Includes sleeping
bags, transportation, guide service, meals.
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Land for Recreation . . .

Indio, Calif.—A move is underway in Coachella Valley to take advantage of the Bureau of Land Management's standing offer to sell public land at nominal cost to any political subdivision, public agency or non-profit organization which wants to develop such acreage for recreational purposes. The law limits to 640 acres per year the amount of land any one group can receive. *Desert* Editor Randall Henderson proposed to the CV Advisory Planning Committee that a coordinated effort be made by local public organizations to acquire desired recreation lands from the government, and studies are now underway by both the Planners and the Desert Protective Council.

Reefs for Salton Sea . . .

Salton Sea, Calif. — The Wildlife Conservation Board has allocated \$3500 for the establishment of artificial reefs at three locations in the 345-square-mile Salton Sea. Purpose of the reefs, made from old auto bodies, is to improve the sports fishing in the inland sea. Transplanted corvina are plentiful in the Salton waters, but they are hard to catch. Fishermen are having the best luck near the wreckage of an old Navy piling.

USS Arizona Shrine . . .

Phoenix—The Governor of Arizona has named a state-wide committee to raise funds to enshrine the battleship USS Arizona, sunk during the 1941 Pearl Harbor attack by the Japanese. Chairman of the committee is James B. Roark, retired Navy Chief Warrant Officer, who also heads the National Fleet Association's USS Arizona Memorial Committee.

Surplus Food for Navajos . . .

Window Rock, Ariz.—The Department of Public Welfare and the Navajo Tribe have reached agreement on the distribution of surplus government foodstuffs to needy Indians. The Tribe has set aside \$116,000 of its funds to construct warehouses, and it agreed to transport the food to the reservation. Rice, corn meal, dried milk, cheese and flour are the principal items that will be given to the Navajos.

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Dixie State Park . . .

St. George, Utah—Utah's new State Park and Recreation Commission formally accepted title to 295 picturesque acres in Snow Canyon of the Red Mountains, thus creating Utah's first state park. To be known as Dixie State Park, the tract lies northwest of St. George along State Highway 18.

Water Costs Rising . . .

Las Cruces, N.M. — New Mexico Senator Clinton Anderson warned the West that it had better speed up work on its reclamation projects before the cost spirals even higher. He cited Elephant Butte Dam on the Rio Grande as an example. When built in 1912-16, the dam cost was \$6,000,000. Today the same structure would cost six times that amount. The dam's power plant, built for \$1,460,000, now would cost \$4,490,000.

60,000 Acre Land Deal . . .

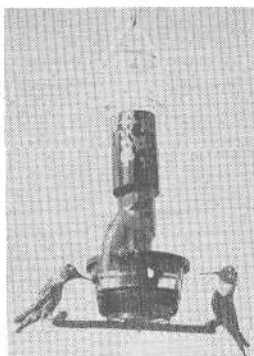
Kingman, Ariz.—Forty Tucson area businessmen and investors purchased 60,000 acres—93.5 square miles—of land in Mohave County west of Kingman. It was one of the largest real estate transactions in Arizona history. An extensive farming operation is planned on the land.

Monument Marks Uprising . . .

Blanding, Utah—The West's "last Indian uprising" has been marked with a monument on the east side of the Blanding LDS Chapel. It was in this area in 1923 that a disturbance occurred, which ended with the death of the Ute Chief, Old Posey.

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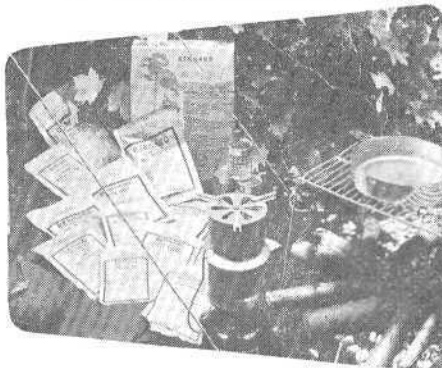
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BIG VARIETY of tumbled gemstones, petrified wood, amethyst, tigereye, obsidian, agates, etc. \$3.50 pound, postpaid. V. Brubaker, 5318 W. L-12, Lancaster, California.

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GEMMY FLUORITE octahedrons: 3 pairs \$1. Each pair a different color. Gene Curtiss, 911 Pine St., Benton, Kentucky.

COLLECTION FOR sale. Fine collection of petrified wood, polished flats, limb sections, rough wood, pine cones and cycads. All must go, by the piece or the pound. Over 10 western states represented, many museum quality specimens. Deals in person only. Bill Mathews, 1001 Dolores Dr., Fullerton, Calif. LAmbert 5-8465.

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SECTIONIZED COUNTY maps — San Bernardino \$1.50; Riverside \$1; Imperial, small \$1, large \$2; San Diego 50c; Inyo, western half \$1.25, eastern half, \$1.25; Kern \$1.25; other California counties \$1.25 each. Nevada counties \$1 each. Topographic maps of all mapped western areas. Westwide Maps Co., 114 W. Third St., Los Angeles, California.

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FOR SALE. 2½ acres. Morongo Valley. Utilities available. \$50 down. \$25 per month. Total price: \$1850. Write: P.O. Box 115, Morongo Valley, Calif.

FOR SALE—Morongo Valley Home. Lot, 100x180 with 22 native junipers. 15½x23-foot living-dining area. 12½x15½-foot bedroom. Excellent fireplace. Cooler. Ample storage. 9x12-foot studio suitable for extra sleeping. Reasonable for quick sale. Box 123, Morongo Valley, or phone FOrrest 5-3615.

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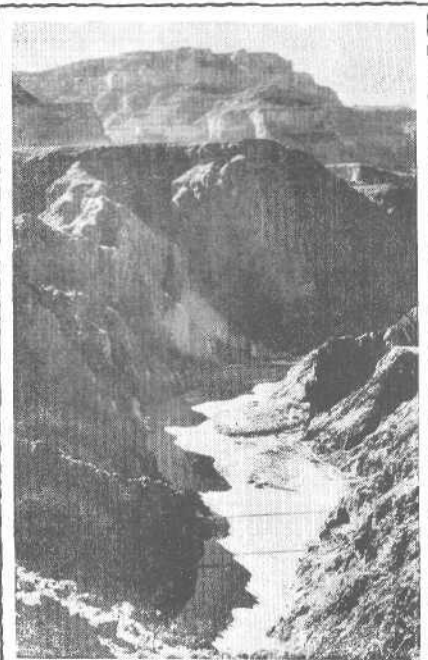
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MINES and MINING

Goldpoint, Nevada . . .

A rich body of gold-silver ore has been discovered on the 800 foot level of the Ohio Mine at Goldpoint. The 10-foot vein's assays show consistent values up to \$200 per ton. The ore is free milling. The mining company is affiliated with United States Milling and Minerals Corporation of Silver Peak where the Ohio Mine ore is being processed. The 40-mile Goldpoint to Silver Peak road was reconditioned to withstand the heavy equipment moving from mine to mill.



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Salome, Arizona . . .

Plans to reopen the famed Harquahala Deposit nine miles south of Salome were told by Rainbow Minerals, Inc., the Arizona corporation which recently took over the gold properties on a lease - purchase arrangement. Among the famous producers involved in the transaction were the Bonanza Mine (which yielded \$7,000,000 in gold at present values), the Golden Eagle, Queen of Fortune, Big Al, New Yorker and Jack Pot. The Harquahala district, first worked in 1888, was the scene of mining activity until the early 1930s. At one time 4000 people lived here. A Rainbow Minerals spokesman said litigation—not the lack of gold—forced the mines to close. In addition to large highgrade veins in some of the mines and a wealth of lowgrade, Harquahala has 290,000 tons of tailings which mining men think will yield good gold values.

Window Rock, Arizona . . .

The Navajo Tribal Council does not recognize the authority of the Utah Oil and Gas Conservation Commission to regulate production on Indian lands, the *Salt Lake Tribune* learned from the Council's legal staff. As a result, 90 percent of all production of oil in Utah will pass from state commission-type regulation, to Federal regulation on basis of administrative review in the Department of Interior. The issue arose when the Secretary of Interior—acting under powers that are his to regulate oil and gas production on Indian and Federal public domain—ordered the 327 oil wells in the Utah portion of the Reservation shut down on grounds natural gas was being flared. This was the first time in 38 years that an Interior Secretary had acted under these powers, such matters usually being left to state oil and gas commissions. Natural gas production on Navajo oil lands in New Mexico is being regulated by that state's commission—without objection from the Tribe.

Austin, Nevada . . .

Apex Minerals Corporation officials said the company's new uranium mill, first in Nevada, should be in operation this spring. After that, work will be started on other prospects and mines in the area, some of which are known to be of great value following diamond drill testing. The Apex custom mill will handle all ores from surrounding mines, in addition to its own ore. Apex said it had been impossible to operate its mine on anything more than a development basis, or to develop the neighboring mines, because of the distance to the nearest mill—which was in Salt Lake City.

Salt Lake City . . .

The nation's copper slump may be over. After months of faltering demand and reduced output, early winter saw the price of copper move to its highest level in nearly two years. All major U.S. producers have increased their work weeks, partly to offset shortages of copper caused by strikes in this nation, Canada and Rhodesia, and to head off what some feared would be a runaway market, with copper prices skyrocketing. Kennecott was back to a seven-day per week operation, and Anaconda and Phelps-Dodge were working six days.

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Berkeley 3, California

Hayden, Arizona . . .

The latest additions to Kennecott's Ray Mines Division, a new smelter and a leach-precipitation-flotation facility, recently were dedicated at Hayden. The new smelter and l-p-f facility are the principal units in Kennecott's \$40,000,000 expansion program at Hayden and Ray — a program springing from an operation which now pulls a ton of ore from the ground to get 18 pounds of copper, and which anticipates a continued lowering of the copper content of its ore. The additions will mean a greater copper recovery, thus allowing the Arizona ore to compete with higher grade foreign ores.

Boron, California . . .

Growing demand for boron products will cause production to double again within the next 10 years. This is the prediction of Pacific Coast Borax Company General Manager J. F. Corkill. "Stepped up research in boron chemistry plus a gradual rise in the world standard of living may well bring about an increased demand for boron," Corkill said. Among the new boron products are gasoline additives, brake fluid additives and boron fuels for jets and missiles. Future developments in boron chemistry may produce ultra-hard plastics and heat resistant polymers, he added.

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Lovelock, Nevada . . .

A veteran Pershing County mining man, Kent Maher, has found three smoky-colored diamonds in hot blue mud of a volcanic chimney in Dixie Valley. The U.S. Mineral Laboratory in San Francisco confirmed the find. The discovery was made on one of Maher's claims in this heavily mineralized area.

Holtville, California . . .

A wildcat well is being sunk on East Mesa, 10 miles east of Holtville—an area that many geologists believe has a great oil development potential. Drilling the well for the Border Oil and Gas Corporation of Yuma is the Marine Drilling Company of Los An-



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geles. The oil company has approximately 34,000 acres under lease in California, the land extending from the Mexican border to the Holtville area.

"OVERLOOKED FORTUNES"

IN THE RARER MINERALS

Here are a few of the 300 or more rarer minerals and gemstones you may be overlooking while mining, prospecting or gem hunting. Uranium, vanadium, columbium, tantalum, tungsten, nickel, cobalt, selenium, germanium, bismuth, platinum, iridium, beryllium, golden beryl, emeralds, etc. Some minerals worth \$1 to \$2 a pound, others \$25 to \$100 an ounce; some beryllium gems worth a fortune! If looking for gems, get out of the agate class into the big money; an emerald the size of your thumb may be worth \$500 to \$5000 or more! Now you can learn how to find, identify, and cash in on them. New simple system. Send for free copy "Overlooked Fortunes"—it may lead to knowledge which may make you rich! A postcard will do.

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GEMS AND MINERALS

REPORTS FROM THE FIELD

These notes are intended as suggestions for your collecting trips. Always make local inquiry before following trails into uninhabited areas. Mail your recent information on collecting areas (new fields, status changes, roads, etc.) that you want to share with other hobbyists, to "Field Reports," Desert Magazine, Palm Desert, California.

Cutting Wood Near Camp . . .

Calico, Calif.—Long Beach rockhounds who made a trip to Mule Canyon earlier this winter said they collected cutting and polishing grade petrified wood close to their camp. Also found were harmless tarantula spiders. The hobbyists report firewood was available in Tin Can Canyon, but heavy rains had closed the Onyx and Odessa Canyon roads. Tin Can Canyon agate also was collected.

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Hassayampa Fire Agate . . .

Hassayampa, Ariz.—Will T. Scott of La Mesa, Calif., sends these directions to a fire agate locale: "Go to Wintersburg or Hassayampa; there is a bladed road which goes west to the large irrigated farms in Centennial Valley. Several miles westward, this road cuts across the Big Inch Gas Line Road. It's a rough trail. Just south of Saddle Mountain, there is a wire fence. Take the faint trail which parallels the fence and leads north. This too is a rough road. Stay with it until you come to a steep hill at the bottom of which there is the main wash which drains the southern slopes of Saddle Mt. Hunt up this wash—there is fire agate on the hills to the east, and banded agate to the north."

A Variety of Specimens . . .

Amelia Court House, Va.—W. D. Baltz has reopened the Piedmont Mining Company's Mica Mine located a mile from the center of this small town, reports H. P. Gavan of Norfolk. For a dollar admission charge, visitors can take out any and all specimens they find. Amazonite is plentiful, says Gavan. This material is found in many types and colors of crystal formations. Garnets, zircons, feldspar, muscovite, biotite, some lepidolite, beryl and other specimens also have come from the mine. Topaz and amethyst also have been reported at the Mica Mine.

Mine Open to Rockhounds . . .

Knoxville, Calif.—Owner of the Manhattan Mine two miles north of Knoxville is allowing hobbyists to collect material on his property, the East Bay Mineral Society of Oakland reports. There is no admission fee to enter the area, and all materials except agate-banded onyx (10c per pound) and pink agate-striped onyx (20c per pound) can be taken without charge.

They Cut Their Own Road . . .

Death Valley, Calif.—Maude Barnes and fellow members of the Verdugo Hills Gem and Mineral Society made a field trip to Wingate Pass in the southern Death Valley area. From Shoshone they followed the road to the turnoff, but the "Wingate Pass" sign pointed up a wash which bore no trace of a road. The wash had been filled with boulders brought down by recent cloudbursts, so Barnes and his companions made their own road. By moving rocks and shoveling off high spots and filling in the low ones, they made 12 miles in four hours. The party camped at the Manganese Mine cabin and from there made short exploration trips into the surrounding country. While they found much solid agate, most of it was colorless. One location yielded beautiful red plume agate. Aragonite crystals were badly weathered.

New Minerals From Ajo . . .

Ajo, Ariz.—Two new minerals from the Ajo area recently were discovered: ajoite and papagoite. Scientific papers on these minerals have not yet been published. Ajoite is a copper aluminum silicate which occurs in small pale aquamarine-colored tufts of fine radiating crystals somewhat resembling bisbeeite or even aurichalcite in growth, reports the Tucson Gem and Mineral Society. Papagoite is a copper calcium aluminum silicate quite different in appearance. The crystals are monoclinic and occur in veins in a quartz-rich matrix. They are a chalcantite-blue, not more than 1/50 inch in size, and transparent with brilliant faces. Ajoite makes an especially fine micromount.

Rare Beryllium Mineral . . .

Winstead, N. M.—A considerable quantity of helvite, one of the beryllium minerals, is available at a location near Winstead, the Tucson Gem and Mineral Society reported. Helvite, a silicate of iron, manganese and beryllium, occurs in veins with quartz, hornblende and iron, in pegmatite veins, and at times in gneiss.

Hill Yields Gem Material . . .

Adelanto, Calif.—Field Trip Chairman Clifford Hanchette recently led the Monrovia Rockhounds to Kramer Hills, north of Adelanto, where jasper, jaspagate and opalite were collected.

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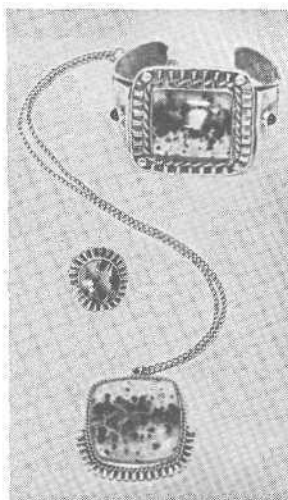
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Agate in the Mesa Country . . .

Glade Park, Colorado—Here is a mileage log to an agate field south of Colorado National Monument supplied by Will T. Scott of La Mesa, Calif. Mile 0—the cross-road store of Glade Park. Supplies, gasoline, postoffice, rockhound information. This location can be reached either from Fruita or Grand Junction. Take the bladed road south which leads up to the top of the mesa. Good agate specimens are found along the pipeline going up the hill. Mile 8.5—Windy Point, road fork, take left fork. 9.1—Bad cattle guard. 10.5—Fork, keep right. 10.8—Cattle guard. 10.9—Johnson Creek, bridge. 11.0—Cattle guard. 11.4—Moss and banded agate all along bank right side of road. 11.8—East Creek, much agate here. 12.0—House on left; corral on right; agate float and veins around pens. By taking the right fork at Windy Point (8.5 miles) and continuing on to the National Forest boundary, another collecting field is reached. A fence line runs up the hill to the right at the Forest boundary, and at the top, on slopes of the hill, Scott found agate, petrified wood, small calcite roses and some good barium crystals. This is high mesa country where aspens and pines predominate. There are good public camps with water in this vicinity.

Old Field Open—With Permission

Trona, Calif. — Colton and Hollywood rockhounds recently made a field trip to the famed Lead Pipe Springs collecting area, a celebrated and productive jasper-chalcedony-agate field before the Navy made it part of its Naval Ordnance Test Station. The hobbyists had the Navy's permission to make the trip, and a Navy guard escorted the 42-car caravan to the Springs. The group spent most of the time at the field looking for geodes and fire opal, and one report was that the hunting was not too successful. Camp was made at Valley Wells by prior permission from the American Potash and Chemical Company, which also allowed the visitors to collect crystals on Searles Lake.

Agate Field Still Popular . . .

Monolith, Calif. — The Horse Canyon agate field in the Tehachapi Mountains near Monolith continues to be one of the most popular Southern California gem fields, reports from several clubs indicate. Entrance gate to the field is near Cache Creek, about 12 miles west of Mojave on Highway 466. The canyon is seven miles beyond the highway. A charge of \$1 per day is collected at this gate. Horse Canyon, 5000 feet above sea level, is a dry camp—both water and firewood should be brought in by the camper. Equipment needed to dislodge the agate includes pick, shovel, sledge hammer and chisel. In addition to camping and agate hunting, the area offers excellent hiking possibilities.

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SECOND ANNUAL SEMINAR FOR BULLETIN EDITORS

February 14-15 dates were announced for *Desert Magazine's* second annual Gem and Mineral Bulletin Editors' Seminar and Open House. Co-sponsoring the event with *Desert* is the National Bulletin Editors' Association.

The seminar dates again coincide with the February 14-23 Riverside County Fair and National Date Festival at nearby Indio, thus affording an opportunity for the editors and their staffs to visit the fair and its outstanding gem and mineral exhibit.

Vivienne Dosse, founder-president of the National Editors' Association, asked editors of new clubs or those not on her mailing list who are interested in attending this year's seminar, to contact *Desert Magazine*, Palm Desert, California, in order to complete the invitation list.

At last year's inaugural event, 25 clubs were represented.

Good Wood Locale . . .

Rio Grande City, Texas—A half day's collecting in the El Sauz area near Rio Grande City netted the Edinburg Magic Valley Gem and Mineral Society a bounteous harvest of "excellent quality" petrified wood. Members found gemmy petrified palm wood, some specimens weighing 20 pounds. One woman located a very large wood stump. Agate also was collected.

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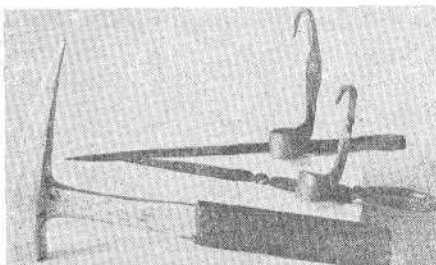
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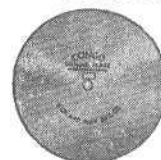
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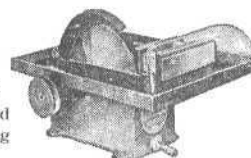
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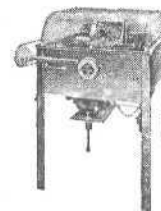
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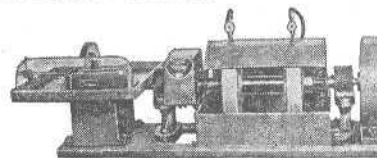
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AMATEUR GEM CUTTER

By Dr. H. C. DAKE, Editor of The Mineralogist

Hack Saws

Akio Ujihara of Los Angeles offers some helpful suggestions on lapidary saws. He has carried out experiments with the power hack saw for lapidary work. On an iron strip 12 inches long by two inches wide, 18 gauge, he silver soldered one-inch segments of metallic bonded diamond teeth taken from a standard circular diamond saw.

He found that this type saw will cut, but has the disadvantage of being slow at lower operating speeds. At higher speeds, vibration problems were encountered.

One of the advantages of the hack saw

tool was the simplicity of applying the coolant and flushing liquid. Even without a cover for the saw, there was no splashing or airborne mist, as encountered in the standard circular diamond saw.

We feel there are possibilities in the development of an entirely different type diamond saw for the lapidary industry.

It would appear that the objection to the hack saw is its slow cutting speed and the vibration problem, two disadvantages that easily could be overcome as further experimental work by Ujihara tends to indicate. He believes part of his original failure was due to using a blade with only a half-inch horizontal stroke. Subsequent experiments indicate that the strike should be at least two inches for greater efficiency.

Experiments also reveal that a narrow blade is more effective—that is, a blade as narrow as possible and yet with the necessary rigidity. The blade may be perforated to further reduce friction binding.

To impregnate a hack saw type blade, it would not be necessary to notch the blade to get an even surface. The diamond readily could be applied by some sintering method.

Success by Others

High speeds in hack saw tools have been developed in other fields, including wood work, where such speeds are essential. For example, in logging the chain saw long has been standard. In addition, there has been developed a similar gasoline-powered tool which uses a straight saw blade. This tool is operated at high speeds, and is claimed to be wholly satisfactory. It was developed to replace the potentially dangerous chain saw.

In sawing rocks, the straight blade would not have to be operated at such high speeds. There is a wide-open field here for investigation. There would be many advantages in the use of a straight blade in lapidary work. For one thing, unlimited depths could be cut in one direction. Here the circular saw is severely limited, as this tool only can cut half its diameter, minus the

thickness of the collar. Hence, with a straight blade only 12 inches long, we could make cuts that would require at least a 30-inch diameter circular blade. The difference in cost of diamond charging these blades would be considerable.

While the circular diamond saw is an efficient and effective tool in the hands of the experienced operator, it is by no means fool proof as many have learned. The cost of the diamond to charge the circular blade also is a substantial cost item. Straight blade cost would be about one-third.

We feel that a low cost power hack saw would be an important factor in widening the popularity of the lapidary hobby.

Rings From Meteorites

A reader reports he has cut a very attractive and unique finger ring from a specimen of iron meteorite from Arizona. A section of meteorite was first obtained by the use of the mud saw. This section was cut approximately one-fourth-inch thick and then shaped to a circular form on the Crystolon grinding wheel. By the use of a tube drill charged with silicon carbide grit, a section was cut from the center of the meteorite disk to fit the finger. The ring was then polished on the felt buff.

By proper shaping of the material, enough metal can be left at the exposed side of the ring to permit mounting a facet cut stone.

This work can be readily done by any manufacturing jeweler. A compact mass of iron meteorite will take a high polish and with the presence of nickel alloyed with the iron, the metal holds its color well. A ring of this kind is unusual to say the least and offers some possibilities for the ingenious lapidarist.

Tektite Gizzard Stones

Exciting observations recently have been made in the study of tektites by Dr. Hubbard of the National Bureau of Standards. Tektites have been found along with the fossilized skeletal remains of large extinct birds. This would serve to date the fall within narrow limits.

Tektites have been found along with various species of various ages. Attention may be called to the fact that we may identify, as such, gizzard stones only when they are found associated with the fossil remains, and when no other worn rocks occur in the vicinity—in short, in the sedimentary beds.

Flower Agate

The beautifully colored plume or flower agate found at the Priday Ranch locality in central Oregon and elsewhere, represents inclusions of thin films of iron oxide. In most cases these inclusions are hydrated iron oxides, like goethite. Manganese oxide (usually black or dark brown) may be present in some specimens.

The growths of colored "flowers" are mainly of red, green, yellow and brown, frequently grouped in bunches in a matrix of colorless transparent chalcedony. In the better specimens the stalks and leaves will be green, with the tops red or yellow—strongly resembling a plant in full bloom. Flower agate is especially well-suited for cabochon cutting. So great has been the demand for this high grade agate, that prices are at least four times higher than they were 10 years ago.

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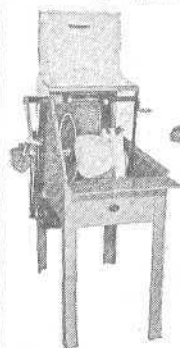


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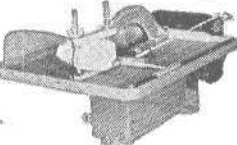
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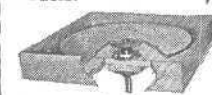
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The maps published each month in Desert Magazine are accurate guides to the places you will want to visit. Over 400 of these maps have appeared in past issues of Desert. Many of these back issues are still available. Here is a classified list — at a special price.

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Aug. '54—Revolt Against Ancient Gods.
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Jun. '52—Petrified Wood Along Butterfield Trail. MAP
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Nov. '52—Fossil Shells in Yuba Basin. MAP
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Nov. '52—Desert Trek in 1904. MAP
Feb. '53—Boatride in Mojave Canyon. MAP
Jul. '53—Boat Ride on Big Bend, Texas. MAP
Dec. '55—We Explored the Winding Stair Cave. MAP
Jul. '56—Boat Trip in Lodore Canyon. MAP
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THE *Desert* MAGAZINE
PALM DESERT, CALIFORNIA



By RANDALL HENDERSON

I CANNOT GENERATE any enthusiasm over this race between United States and Russia to see which can first plant its flag on the moon. According to all scientific reports, the moon is more arid than the Sahara desert. I am in favor of giving the moon to Russia, while we here in the United States devote our energies to perfecting a process for desalting sea water at a cost of less than 50c a thousand gallons. At the rate population is increasing and our water supply diminishing, an added supply of good water is going to be more important in the years ahead than any claim we could establish to a lifeless satellite 238,857 miles away.

* * *

For those who would better understand the fine balance which Nature, left to her own resources, preserves on this earth, I would recommend Joseph Wood Krutch's latest book, *Grand Canyon—Today and all its Yesterdays*.

Mr. Krutch is a naturalist and his chapter on "The Balance of Nature" is one of the most clarifying treatises I have ever read on this subject. He and other men of science have learned that every creature and every plant have a role to play in making this planet a habitable place for man. Mutual aid is a more important factor in the survival of species than mutual destruction.

Once, following a radio broadcast from Tucson in which he suggested that he would not even want to see the tarantula and scorpion totally exterminated, an indignant woman called him on the phone and accused him of blasphemy. Only man, she said, was valuable in God's sight. Krutch writes:

"She was silenced (but I am afraid not convinced) when I pointed out that, on the evidence of the Bible itself, this had not been God's point of view. He did not say to Noah, 'save as many men as you can and let the soulless beasts drown'. He said something like this: 'You and your family are enough to preserve your species. Get two of every other so that none shall become extinct.' And He didn't say only the 'useful' ones, either. The tarantula and the scorpion must have been taken along. And what right have we to exterminate what God took the trouble to save in the Ark?"

* * *

The Wilderness bill, widely sponsored by conservation organizations, failed to pass the last two sessions of Congress, but the measure is by no means dead. In preparation for its introduction in the 86th Congress, hearings have been conducted during the fall months.

This bill, in brief, provides for a National Wilderness Preservation System which "... shall be composed of

areas of public land in the United States and its territories and possessions, retaining their natural primeval environment and influence and being managed for purposes consistent with their continued preservation as wilderness, which areas shall serve the public purposes of recreational, scenic, scientific, educational, conservation, and historical use and enjoyment by the people in such manner as will leave them unimpaired for future use and enjoyment as wilderness."

The alignment of interests favoring and opposing the measure is well established. It is opposed by the lumbering, mining, cattle and sheep men and some of the Farm Bureaus. Wildlife and conservation groups are practically unanimous in their support of the bill.

I am confident that if a poll were taken, a majority of Americans would favor the Wilderness plan—for it is a program designed for the enjoyment of all our people for all future time. There is no shortage of food or fabrics or building materials in America today, and if our mineral supplies are approaching exhaustion the preservation of limited areas which are closed to mining will not greatly hasten the day when we must find some other solution to that problem. If the areas to be closed to mineral exploitation contain any great mineral treasure, I am sure the prospectors who have combed the land for a hundred years would have discovered and staked it out long before this.

Too much crowding brings out the worst in human nature, and in the face of rapidly expanding population we need to reserve as much recreational space as we can before it is too late.

* * *

One of the characters in a book I read recently was described as a man who had no imagination. "He was quick and alert in the things of life, but only in the things, not in the significances."

And probably that explains why some folks love this desert land, and others find it repellant. Those who see "only the things" find no beauty in the colors and forms of the desert landscape. Appreciation of Nature's artistry is limited to those who have the vision to see behind and beyond the superficial aspect of things—those with the power to see "significances."

To these the desert is fascinating because they recognize in this strange world of paradoxes the opportunity to gain new understanding of the miracle of Creation.

And of course some of them have to write poetry about it. Heaven bless them for that—I only wish I had the space to print all their poems.

THE *Desert* MAGAZINE CLOSE-UPS

As a former associate editor of *Desert Magazine*, Margo Gerke is well aware of our no-fiction policy. She had something of a job convincing the editor that all the incidents in the "Tenderfoot Cruise on the Verde" comedy-of-oarers appearing in this issue, really were true.

It was five months after the Verde River trip that Margo joined *Desert's* staff. She remained three years, then decided to try free-lancing, and moved her paints and typewriter to San Francisco.

After a year beside the Bay, Margo entered the Christmas card business and shifted to her family home in Sierra Madre, California, to handle annual production of 30,000 silk-screened desert greeting cards, distributed through Arizona and Southern California.

Now she concentrates exclusively on free-lance writing and commercial art projects. In September she moved her studio to Palm Desert, and maintains an office in the *Desert* pueblo.

Mary Beckwith—"Becky" to her friends—of Van Nuys, California, has been over a great deal of the Grand Canyon-Four Corners country—"following 80 years behind the footsteps of Major Powell." She is author of this month's "Life from the Earth."

During the years she has been a student of the Navajo language, one of the most difficult on earth as we can gather from her succinct description: "What a collection of grunts, throat-clearings and coughing consonants! One explanation for a certain Navajo sound which tickled me was: 'clear your throat as though trying to dislodge a hair!'"

A trip with pack burros through the red desertland of northern Arizona during the summer of 1932 brings back warm memories to Melvin Hutchinson, author of "Backpack Adventure in Remote Asbestos Canyon" in this month's magazine. "It was during the Depression, and that wonderful three-month vacation cost my companion and me \$45 — including the two burros," he writes.

After 10 years of newspaper work on the staff of Flagstaff's *Coconino Sun*, Hutchinson completed the college work which the Depression had interrupted. At present he is assistant professor of journalism and director of publicity at Arizona State College.



The Butterfield Stage

MARJORIE REED, Artist

(see "Vallecito Palm Spring" on back cover)

She captures the action of the Old West

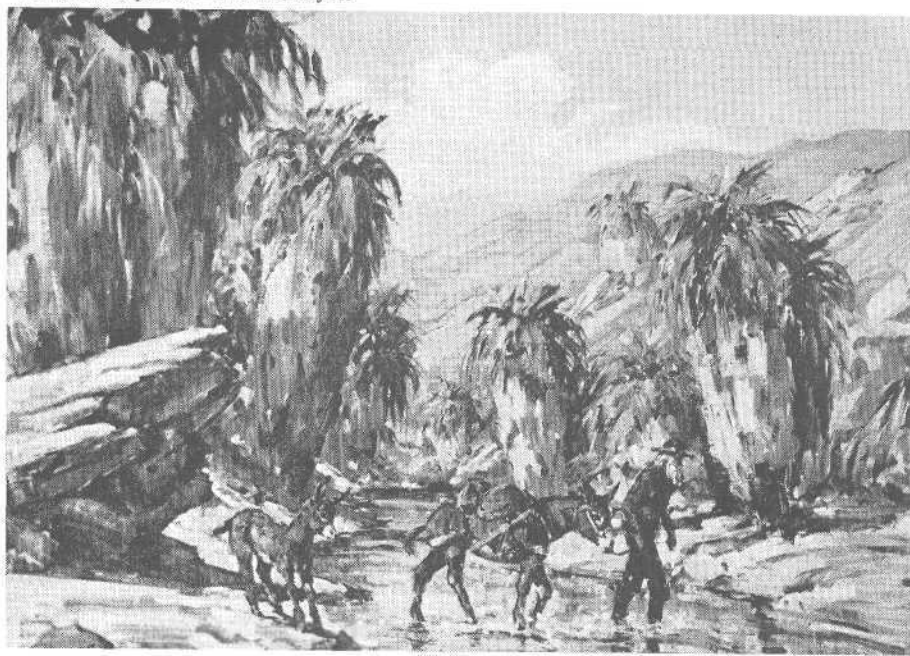
The Old West—horses, stagecoaches, prospectors, Indians, stage drivers, desert waterholes—these are the predominating subjects of Marjorie Reed's work, recognized today as among the finest contemporary art being created in the Southwest. Miss Reed has traveled to the far corners of the desertland in her search for authentic material around which to base her colorful paintings. Indeed, authenticity ranks with sparkle and action as the chief characteristics of Miss Reed's art.

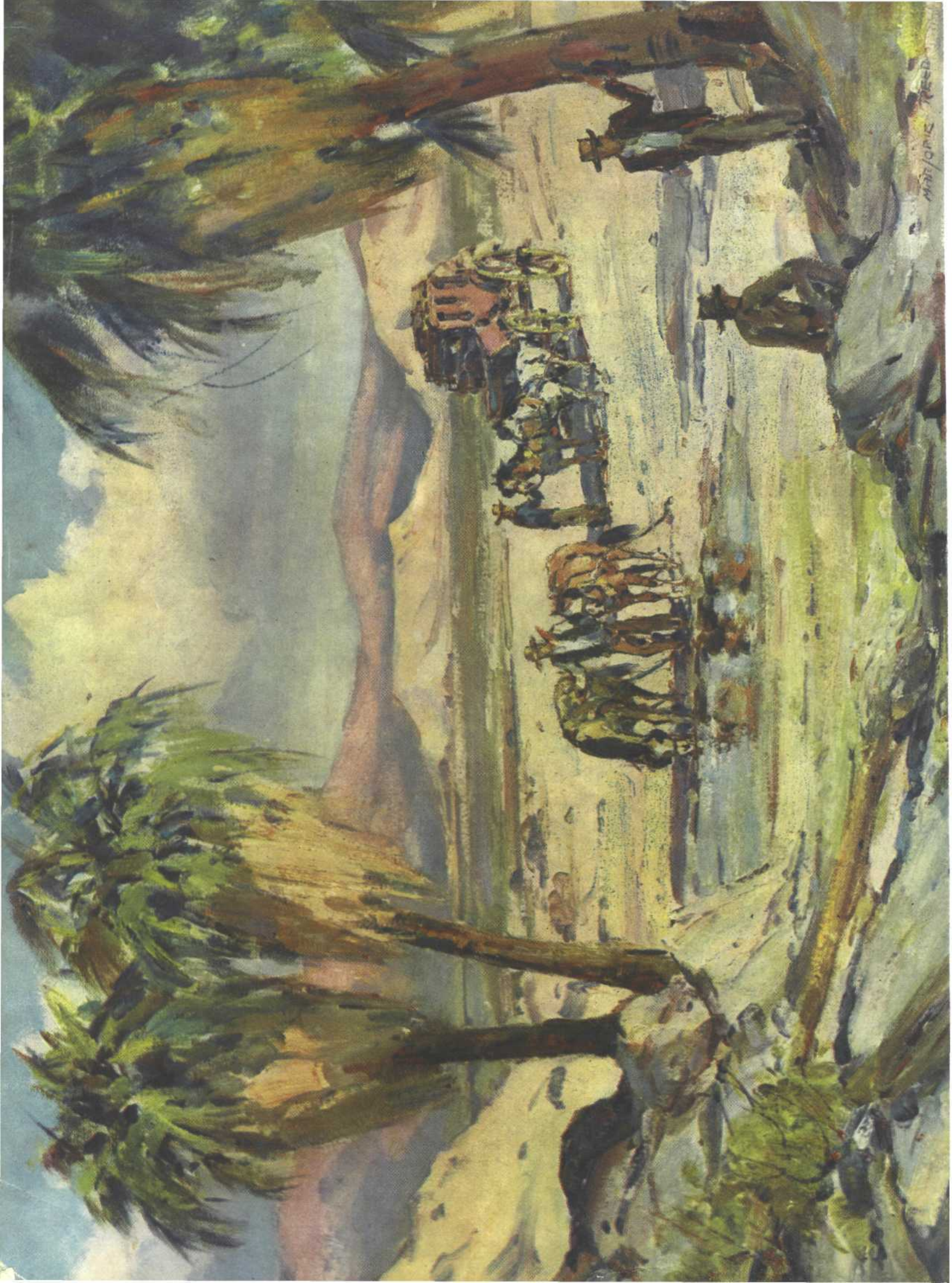


The stagecoach above is part of her most noted success—a 30-canvas series depicting the Butterfield transcontinental stage operation of 1857-58. The paintings below and on the back cover point to another Marjorie Reed artistic forte: the Palm Springs-Colorado Desert area on which she has done considerable study and research.

The artist's work will be featured at the admission-free Desert Magazine Art Gallery on Highway 111, Palm Desert, California, during the month of February. Also on the Desert Art Gallery exhibit calendar are these shows: John Hilton, December 13-January 5; Marjorie Cummins, Jan. 17-Feb. 1; R. Brownell McGrew, last three weeks in March.

Desert Prospector—Palm Canyon





MARJORIE REED